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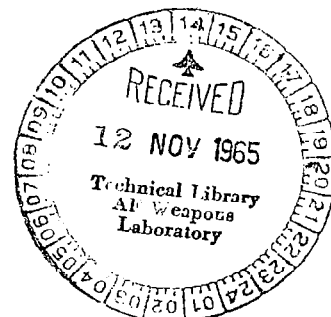
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A SURFACE-FITTING PROGRAM FOR AREALLY-DISTRIBUTED DATA FROM THE EARTH SCIENCES AND REMOTE SENSING

*by E. H. Timothy Whitten, William C. Krumbein,
Irma Waye, and Walter A. Beckman, Jr.*

Prepared under Grant No. NGR-14-007-027 by
NORTHWESTERN UNIVERSITY
Evanston, Ill.

for



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FOREWORD

This FORTRAN II computer program prepared for the IBM 709 has considerable potential value for analyzing a wide range of data gathered during remote sensing experiments. Remote sensors carried in aircraft and satellites are beginning to make large volumes of data available for scanned areas of different dimensions. This program provides a method of reducing data recorded for a large number of areally-distributed sample sites to the form of simple isopleth maps. In using the technique of trend surface analysis, the program also provides a basis for differentiating between (a) the regional effects (trends) in the 'mapped' variables, (b) the predictable components of the local variability (deviations), and (c) the 'noise' which, although often of subject-matter interest and importance, represents small-scale variability that cannot be predicted at the particular level of sampling employed. Examples of the use of trend surface analysis to separate these components of mapped variables have been published in the geological literature (e.g., Whitten^{1,2}). It is hoped that the FORTRAN II source program will be of use to all engaged in analyzing remote sensor data, and data collected from studies of the areal variability of mapped attributes in agriculture, forestry, geography, geology, oceanography, etc.

The present program stems from a long continued research effort in the Geology Department, Northwestern University. The first version was prepared in MACHINE LANGUAGE for the IBM 650 in 1957 by Professors W. C. Krumbein and D. Harris, but was rewritten in SOAP by Krumbein and C. Faulkner in 1960. This degree three polynomial trend surface program was rewritten in FORTRAN II and expended for double precision computation with eight dependent variables by 1962; this version, suitable for use on IBM 709, was listed by Whitten¹.

In 1963, Whitten began rewriting the program to compute eighth degree components for eight dependent variables. Intensive effort by Miss Irma Waye and Krumbein led to development of the present sophisticated methods for developing the trend components; the resulting program for the IBM 709 is in FORTRAN II with some portions in FAP. Finally, Mr. Walter A. Beckman, Jr. aided in compilation of the program instructions. This paper has been jointly written by Whitten and Beckman.

At various stages in the development of the present computer program financial support has been received from the Graduate School of Northwestern University, the National Science Foundation (grant to Whitten, Project Number G-19633 in 1962), the Office of Naval Research (to Krumbein and Garrison, Contract Nonr-1228(26); Task no. 389-135) and the National Aeronautics and Space Administration (research grant to Whitten, Number NGR-14-007-027, in 1964). This continuing assistance, which has materially aided in the development of this program, is gratefully acknowledged.

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SUMMARY

A flexible new FORTRAN II program capable of using a variety of methods to optimize computation of trend surfaces up to degree eight, forms the basis of this paper. The mathematical method of deriving the polynomial trend surface equations is briefly described. A complete listing of the program is included together with detailed operating instructions.

Data obtained from photographs of a small sample grid in the NASA Pisgah Crater Test Site, California are used to illustrate the use of the program. The value of the program for analyzing the geographical variability of any remote sensor or earth science data is described.

INTRODUCTION

Numerous statistical problems are involved in predicting the nature of an area ('ground truth') with the aid of remote sensors. At present remote sensors are being developed that use selected portions of the whole electromagnetic spectrum for scanning the Earth, Moon, and other planets from aircraft or satellites. Current experiments involve a wide range of subject-matter interest: agriculture, forestry, geography, geology, oceanography, etc. The program described in this report has potential value to each of these disciplines, but, for specific illustration, geological attributes are discussed.

In an attempt to interpret the geological attributes of a terrane on the basis of remotely sensed data, it is convenient to erect statistical quantitative models. Such models can be based on several different types of information:

- (i) data concerning those geological attributes traditionally studied by geologists; these fall into two classes: (a) geometrical attributes of the surface rocks and the atmosphere-lithosphere interface (e.g., joints, terrain, relief, roughness, etc.), and (b) physical and chemical properties of the surficial rock units: sometimes as many as 140 attributes have been measured for individual hand samples, and 300-500 attributes could be measured without trouble.
- (ii) data concerning the materials at the Earth's atmosphere-lithosphere interface that are scanned by remote sensors: at present there is essentially no quantitative information about the nature and areal variability of such materials, which include wind blown dust, silt, and sand, disaggregated debris, desert varnish, caliche, soil, etc.
- (iii) remotely sensed data.

In each of these cases the individual attributes measured for samples (or sample sites) of constant size are dependent variables with respect to the geographical location; thus, $X_{ns} = f(U,V)$, where X_{ns} is the n th attribute for samples of size s , and U and V are orthogonal geographical coordinates. If the data are collected in digitized form for several hundred or thousand observation sites (U,V -locations), it is convenient to portray the results in the form of contoured maps. Such maps provide one quantitative basis for correlation between remotely sensed data and various sorts of ground truth.

Unfortunately, for many of the types of data referred to above there is essentially no quantitative information about geographical variability. As a result, it is difficult to anticipate what may influence the use of remotely sensed data for making predictions about common geological attributes. An example will illustrate the sort of geological ground truth problem that may

arise. Many basalts exposed within the NASA Pisgah Crater Test Site, California, U. S. A., bear a significant veneer of desert varnish. Some remote sensors may chiefly respond to the desert varnish, which has markedly dissimilar chemical and physical attributes to the basalt mapped by the conventional geologist.

In a preliminary attempt to erect meaningful models to correlate remote sensor data with various aspects of ground truth it is useful to construct objectively-contoured maps for each observed attribute. Such maps are also particularly useful in evaluating the difference between models based on (a) attributes of samples of dissimilar sizes, and (b) samples measured (or sensed) at slightly dissimilar U,V-sites.

Geological and remote sensing studies commonly involve large numbers of observations made at different geographic locations. It is widely recognized that manually constructed contour-type lines are highly subjective, and that different draughtsmen tend to develop wholly dissimilar maps without violation of the observed data (see Figures 2 and 3). Although this could be rectified by interpolating more and more observations, the density of observation sites is commonly prescribed by outside factors (e.g., design of the remote sensor, etc.) unrelated to the geological attributes involved. In consequence, it is useful to obtain an objective, quantitative, mathematical approximation to the areal variability shown by the observations. In the earth sciences trend surface analysis has been widely used and this technique provides a useful tool for the present purpose.

EIGHTH DEGREE TREND SURFACES

Various mathematical functions have been used to approximate the most appropriate surface to represent a set of dependent variables. Polynomials have been extensively used with success (e.g., Grant³, Krumbein⁴, Whitten^{1,2,5}), although Fourier series (e.g., Harbaugh and Preston⁶) and numerous other functions have also been used in special cases. For many earth science problems, the polynomial is satisfactory provided that the sample sites are reasonably evenly distributed within the area studied. The computer program presented here is based on the following eighth degree polynomial function:

$$X_n = a_0 + a_1U + a_2V + a_3U^2 + a_4UV + a_5V^2 + a_6U^3 + a_7U^2V + \dots + a_{41}U^3V^5 + a_{42}U^2V^6 + a_{43}UV^7 + a_{44}V^8 \quad (1),$$

where U and V are the map coordinates and X_n is the nth dependent measured attribute (e.g., electrical resistivity, quartz content, etc.) measured at each U,V-location. To obtain the coefficients a_0, a_1, a_2, \dots which give the surface that most closely approximates the observed data, the

conventional method of least squares is employed (Grant³; Krumbein⁴). In practice, surfaces of successively higher degree are computed; the first degree surface

$$X_n = b_0 + b_1U + b_2V \quad (2),$$

then the second degree surface

$$X_n = c_0 + c_1U + c_2V + c_3U^2 + c_4UV + c_5V^2 \quad (3),$$

and so on. Successive surfaces account for larger proportions of the total sum of squares of the observed data values (X_n). The computational details and a FORTRAN II computer program for equations up to the third degree were described in detail by Whitten¹. Where several hundred or more observations points are involved, trend surfaces of higher degree than the third are commonly needed to portray the complex regional variation patterns. Commonly, it has been found useful to use seventh and eighth degree trend surfaces, or, in a few cases, even mozaics of overlapping eighth degree surfaces.

To derive the coefficients b_0 , b_1 , and b_2 of the first degree trend surface (equation 2) it is necessary to solve the three simultaneous equation

$$\begin{bmatrix} N & \Sigma U & \Sigma V \\ \Sigma U & \Sigma U^2 & \Sigma UV \\ \Sigma V & \Sigma UV & \Sigma V^2 \end{bmatrix} \cdot \begin{bmatrix} b_0 \\ b_1 \\ b_2 \end{bmatrix} = \begin{bmatrix} \Sigma X_n \\ \Sigma UX_n \\ \Sigma VX_n \end{bmatrix} \quad (4),$$

where N is the number of U, V -sampling sites at which data were obtained (Whitten¹, p.7). Since the $[U, V]$ matrix and the column vector $[X_n]$ are known from the original data, equation (4) can be solved for the required coefficients by multiplying both sides by the inverse of the $[U, V]$ matrix, thus:

$$\begin{bmatrix} b_0 \\ b_1 \\ b_2 \end{bmatrix} = [U, V]^{-1} \cdot \begin{bmatrix} \Sigma X_n \\ \Sigma UX_n \\ \Sigma VX_n \end{bmatrix} \quad (5),$$

For the eighth degree polynomial, 45 coefficients must be computed by solving the following 45 simultaneous equations:

$$\begin{bmatrix}
 N & \Sigma U & \Sigma V & \Sigma U^2 & \Sigma UV & \dots & \Sigma UV^7 & \Sigma V^8 \\
 \Sigma U & \Sigma U^2 & \Sigma UV & \Sigma U^3 & \Sigma U^2 V & & \Sigma U^2 V^7 & \Sigma UV^8 \\
 \vdots & \vdots & \vdots & \vdots & \vdots & & \vdots & \vdots \\
 \Sigma UV^7 & \Sigma U^2 V^7 & \Sigma UV^8 & \Sigma U^3 V^7 & \Sigma U^2 V^8 & & \Sigma U^2 V^{14} & \Sigma UV^{15} \\
 \Sigma V^8 & \Sigma UV^8 & \Sigma V^9 & \Sigma U^2 V^8 & \Sigma UV^9 & \dots & \Sigma UV^{15} & \Sigma V^{16}
 \end{bmatrix} \cdot \begin{bmatrix} a_0 \\ a_1 \\ a_2 \\ \vdots \\ a_{43} \\ a_{44} \end{bmatrix} = \begin{bmatrix} \Sigma X_n \\ \Sigma UX_n \\ \Sigma VX_n \\ \vdots \\ \Sigma UV^7 X_n \\ \Sigma V^8 X_n \end{bmatrix} \quad (6),$$

Theoretically, matrix inversion could be used to solve equation (6), but, in practice, such matrices do not lend themselves to ready inversion. A special feature of the present computer program is that scaling techniques and a variety of different methods of solving the successive sets of simultaneous equations are available; the program also has built-in tests that cause it to choose the most desirable method of computing the coefficients. In unfavorable circumstances, the tests can prevent calculation of the highest degree coefficients; then the program prints out a statement with the highest degree coefficients that it is appropriate to compute. Options are provided for the operator to introduce special scaling techniques to aid in solving the equations when the U,V-matrix is particularly ill-balanced.

The main output of the program comprises:

- (a) an array of the computed values for the trend surfaces and the deviations at each U,V-sample site for up to 8 dependent variables; the deviation is the observed value minus the computed value at a particular site.
- (b) the coefficients of the degrees 1 through 8 polynomial surfaces for up to 8 dependent variables.

Commonly, it is convenient to use the algebraic polynomial expression to plot contours on the trend surfaces within the area of interest. This can be done by using the arrays of computed values or, alternatively, the coefficients can be obtained as card output for use with a standard program that produces a continuous-symbol map printed out by the computer. Naturally, the distinction between such isopleths and those drawn with respect to the observed data should be kept in mind clearly. The computed contour lines provide a useful method of assaying the regional trend inherent in the data; commonly, such trends are partially or completely masked by the local variability of the observed data in the earth sciences (e.g., Allen and Krumbein⁷; Dawson and Whitten⁸).

Outline of the Program Capacity

The present program is designed to operate with one to eight sets of mapped variables (dependent variables, X_n). Essentially an unlimited number of data points can be used. The lower limit to the number of data points is prescribed by the distribution of the points and the number of degrees of freedom involved in the degree of trend surface used. As an empirical guide, at least three times the number of data points as the number of coefficients should be used (see Table 1).

Computation of the polynomial coefficients is facilitated if the geographical axes are oriented so as to reduce unintentional alignment of the U and V values of the data points. It is assumed that the geographical origin is at the top left-hand corner of the map, so that U increases downwards and V from left to right.

The actual FORTRAN II (with some parts in FAP) program designed for the IBM 709 is listed in Appendix I.

PREPARATION TO RUN PROGRAM

Data Cards

A separate data card is commonly used for each sample location; the U,V-coordinates and the data for one through eight dependent variables measured at each sample site are included in the same 80-column IBM card. The standard format is (6X14,10F6.3) with which:

Columns 1 through 6 - Project number (either numerical or alphabetical).
7 " 10 - Sample site identification (either numerical or alphabetical).
11 " 16 - Geographical coordinate U (an independent variable).
17 " 22 - Geographical coordinate V (an independent variable).
23 " 28 - Dependent variable X_1 .
29 " 34 - Dependent variable X_2 .

Succeeding groups of six columns accommodate X_3 through X_8 . Columns 71 through 80 are not used.

Different data card formats can be used provided that (a) a variable-format card is included in the deck, and (b) the first control card is modified in column 11 (see below). Usually it is convenient to use one

TABLE 1.--THE DESIRABLE NUMBER OF DATA POINTS FOR
CALCULATION OF TREND SURFACES

Degree of trend surface	Number of coefficients	Minimum number of evenly-distributed data points desirable
1	3	9
2	6	18
3	10	30
4	15	45
5	21	63
6	28	84
7	36	108
8	45	135

card for each sample site, but the variable-format card could specify a two or three-card format for each sample site. It is a convenience to express all variables to the same number of decimal places, though this is not a necessity if a variable-format card is used.

The program cannot accommodate 'no data,' because a blank space is interpreted as a zero observation.

The Data Deck

The number of permitted options is considerable and the following list shows a complete data deck when all possible control cards are used; in many instances items 5 through 9 may be omitted (see below).

1. FIRST CONTROL CARD
2. SECOND CONTROL CARD
3. Two TITLE CARDS
4. n CARDS IDENTIFYING VARIABLES (n = number of variables up to 8)
5. VARIABLE-FORMAT CARD FOR INPUT DATA
6. VARIABLE-FORMAT CARD FOR PUNCHING NEW DATA DECK
7. SCALES CARD
8. TRANSFORMATION CARD
9. SHIFT CARD
10. Standard deck of data cards
11. NINES CARD

First Control Card

This controls the main flow of the program, but many of the values on it need not be specified. The values in columns 7, 11, and 22 must be specified. It is desirable to specify values in columns 8, 9, and 13. Otherwise the card can be left blank and the program will set the values as explained below. However, any options which permit reading other control cards - transformation codes, scale factors, shift values, or variable format - must be specified on this card.

This card should be completed as follows:

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
1 - 6	any	Project number (as on data deck).
7	1 to 8	Number of dependent variables to be read (identified as NV).
8	1 to 8	The lowest degree trend component for which results are desired (identified as FIRST). If blank or 0, program sets equal to 1.
9	1 to 8	The highest degree trend component for which results are desired (identified as LAST). If blank, program sets equal to 8.
10	1 to 8	<p>Minimum reset value of highest degree trend component acceptable (identified as RESET). Where internal checks indicate the program should not be allowed to continue to the highest degrees requested (column 9), the current value of LAST is automatically decreased by 1. If the new value of LAST is \geq RESET, the program continues as if this new value had originally been specified for LAST in column 9.</p> <p>If the new value of LAST is less than RESET, the program will either stop or go on to the next set of data, depending on whether the user has supplied special subroutines of his own. (If he has, the program has no way of knowing where to find the next job on the input tape.)</p>
11		INPUT DATA - Insert either 0, 1, or 2.
	1	Standard format of (6XI4,10F6.3) will be used to read the data cards.
	2	Variable-format card will be read and used to read the data cards. (See variable-format card below.)
	0	New data will not be read and the matrix previously generated will be reused. Therefore, NV and LAST (columns 7 and 9) should not be greater than when the matrix was generated (if they are, they will be reset by the program to the highest legal values). If column 11 is blank or 0, the entire data for the job consists

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
		of two control cards and the two title cards only.
12		TRANSFORMATION OF DATA - punch either 0 or 1.
	0	No data transformations required.
	1	Transformation of data required; in this case a transformation card must be included in the data deck (see below).
13		SCALING OF U,V-MATRIX FOR COMPUTING COEFFICIENTS - punch either 0, 1, 2, or 3 (<u>Commonly 2 is used</u>).
	0	No scaling of the U,V-matrix will be used.
	1	Special scaling values specified by the operator will be used: in this case scales card must be included with the data deck (see below).
	2	This causes the program to scale the U,V-matrix automatically; the program actually computes the scale factors by calculating the means of the absolute values of U, V and each X_n , and then truncating each of these values to the next smaller power of 2. The effect of this scaling is to greatly decrease the range of values in the U,V-matrix and the X_n vectors, although the smallest element is now normally N and the largest is either the element corresponding to the highest power of U or V.
	3	If it is desired to solve the equations for all degrees in one pass through the U,V-matrix by using subroutine SOLVE (required 3 in column 22 of the first control card), it may be desirable to 'turn around' the order of the terms in the matrix, so that the largest element is N and the powers of U and V get smaller - this is done automatically by punching 3 in this column.
14		PRINTED OUTPUT requirements - punch 0, 1, 2, or 3.
	0	Minimum output of the basic program: coefficients of equations, percent reduction in the sum of squares for each degree and each X_n , and certain error returns.

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
	1	Intermediate amount of output; <u>e.g.</u> , instead of the entire check matrices, only the maximum elements and norms are printed in addition to those given with 0 punch.
	2	Maximum "normal" output. Entire check matrices are printed. This option should be used with caution, especially if the coefficients are computed by matrix inversion.
	3	Special case for the output of intermediate results. In a few cases it may be desirable to see this output. This option will also cause the printing of check matrices.
15		OUTPUT OF U,V-MATRIX - punch 0, 1, or 2.
	0	U,V-matrix is not printed.
	1	Only the elements of the U,V-matrix are printed.
	2	The entire matrix is printed out.
16		PRINTING OF INPUT DATA - punch 0, 1, 2, or 3.
	0	Input data will not be printed.
	1	Data will be printed only in original form, regardless of transformations, shifts of axes or scaling.
	2	Data will be printed in original form and in the final form before scaling if transformation or shift has been requested. If there has been no change from the original before scaling, this option will be ignored.
	3	Data will be written again after scaling. If there has been no transformation or axis shift, the data will only be written twice. If 3 is punched but the data have not been processed in any of these ways, they will be printed only once.
17		PUNCHING OF INVERSE U,V-MATRICES - punch 0, 1, ... , 8.

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
	0	Inverse matrices will not be punched.
	1 to 8	Maximum degree for which punched inverse U,V-matrices are desired. If the coefficients are computed by matrix inversion, the inverses of degrees FIRST through the number punched may be obtained on card output for use in other programs. The inverse is punched with a format of E15.8 with four numbers per card. Each card contains the deck number in columns 1-6, four numbers of the inverse in columns 7-66, a label in columns 73-77 and serial numbering in columns 78-80. The label is D_INV, where the blank is filled in with the degree number. For example, degree 3 would be labelled D3INV. For degree 3 the inverse matrix is 10x10, or 100 numbers, so the serial numbering would go from 1-25. Thus, D3INVbb1, ..., D3INVb25.
18		PUNCHING OF DUPLICATE INPUT DATA DECK - punch 0 or 1.
	0	Data deck will not be punched.
	1	Data deck will be punched; if transformation or axis shift were requested, the new deck will include these modifications. For these options an additional variable-format card for output of data must be included in the data deck (see below).
19		PUNCHING OF COEFFICIENTS ON CARDS - punch 0, 1, 2, ..., 8.
	0	No coefficients will be punched.
	1 to 8	Maximum degree for which machine is to punch coefficients (identified as <u>N</u>). The coefficients are punched for degrees FIRST (column 8) through <u>N</u> . The same output format as for the punched inverse (see column 17) is used, except that the label identifies both the degree and the dependent variable to which the coefficients correspond; the label occupies columns 73-78, while the serial numbering requires only columns 79-80. The label is D_CX__, where the first blank is filled with the degree number and the second two blanks are the numbers assigned to X_n . Thus, D4CXb5 indicates coefficients for X_5 , degree 4. As an example, if coefficients are to be punched for

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
		X_3 and X_5 , degrees 1 and 2, the following cards would be punched, in this order:
	000020	C1 C2 C3 0. D1CX 31
	000020	C1 C2 C3 0. D1CX 51
	000020	C1 C2 C3 C4 D2CX 31
	000020	C5 C6 0. 0. D2CX 32
	000020	C1 C2 C3 C4 D2CX 51
	000020	C5 C6 0. 0. D2CX 52
20 - 21	blank	Not used.
22		METHOD OF COEFFICIENT COMPUTATION - punch 0, 1, 2, or 3.
	2	Coefficients computed separately for each degree, without matrix inversion.
	1	Coefficients computed separately for each degree by matrix inversion.
	3	All coefficients for all degrees computed in one pass by using subroutine SOLVE.
	0	Coefficients not computed.
23		COMPUTATION AND LISTING: COMPUTED AND DEVIATION VALUES.
	0	Computed and residual values not required.
	1 to 8	Maximum degree for which computed and residual values are to be computed and listed.
24		SPECIAL SUBROUTINES CALLED FOR - punch 0 or 1.
	0	Special subroutines not called.
	1	Subroutine SPEC, provided by user, is called for additional computations. For example, a subroutine may be included which will have the program make contour maps from the computed coefficients or residuals. This procedure is time-saving and provides greater accuracy than can be achieved by using the punched output in a separate map program.

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
25		U,V-GEOGRAPHICAL AXIS SHIFT AND CONSTANTS ADDED TO X_n - punch 0 or 1.
	0	No axis shift in original data and no constant to be added to X_n values.
	1	All computations are based on individually-corrected data card values (U, V, and X_n). If this option is utilized, a SHIFT card <u>must</u> be included with the data. A different (positive, negative, or zero) value must be specified for U, V and each X_n .
26 - 27	blank	Not used.
28		INVERTED MATRICES AVERAGING - punch 0 or 1.
	0	No averaging required.
	1	Inverted U,V-matrices made symmetric by averaging process.
29 - 33	blank	Not used.
34		COMPUTATION TIME - punch 0 or 1.
	0	Times will not be computed.
	1	Computation times will be printed on output. Three times are printed: coefficients, residuals, and special computations. The subprogram TIME may have to be modified at other installations or a dummy subroutine may be substituted.
35 - 45	blank	Not used.
46 - 50		In general, leave blank. A value by which the scaling factors are multiplied before being used to scale the input data can be inserted. If not specified, the program sets this equal to 1. If program will not compute highest degree coefficients desired, operator can scan the output and perhaps try 0.5 or 0.8, including decimal point in field.

<u>Columns</u>	<u>Values Punched</u>	<u>Purpose</u>
51 - 72	any	Optional comments to identify data for user. Will be printed on the output, but otherwise ignored by program.

It may be desired to use the same data to compare different methods of computing coefficients. If so, the data need be read only once. For the first computation, prepare the deck as usual. This deck should be followed by only the first four required cards, i.e., two control cards and two title cards, for each succeeding computation. A zero punched in column 11 of the first control card will indicate to the program that the U,V-matrix previously generated is to be re-used. A statement to this effect will appear on the printed output. The first time a set of data is used (column 11 greater than 0), NV must be correct, and must be the same as the number of title cards for variables. If a previously generated U,V-matrix is being used for additional computations, NV (column 7) should be less than or equal to the previous value. If too large, it will be reset by the program.

Second Control Card

This card must be included even if completely blank. The card makes it possible to specify certain test values for use in the program. The format for the card specifies eight fields of 9 columns in E FORMAT. This card will usually be entirely blank, and in this case all values will be treated as 0, except the last, which is automatically set equal to 99998. provided that no other value is specified by the user in columns 64 - 72.

The second control card has the following form:

Columns 1 - 9	Usually left blank but can be used for the following purpose. Most inversion and solution subroutines test whether the largest element in the matrix is greater than a certain test value. In these subprograms division will always be legal, but it may happen that at a certain degree the matrix is too nearly singular to give reliable coefficients. In most cases internal checks on the percent reduction in the sum of squares will then stop the computation.
	If, however, it becomes known that a certain lower limit will always prevent these unnecessary computations, this value may be specified here and used instead of 0 as the test value.
10 - 63	Not currently used.

Columns 64 - 72 Test for end of data deck. If left blank the program sets to 00099998., the value required with the standard "Nines Card" (see below). If the standard "Nines Card" is changed, a new value must be punched on this card too.

Title Cards

Two general title cards must be used to identify the job as a whole. These may be punched with any alphabetical or numerical information, in columns 1 - 72. This information will appear on the printed output. Typical cards might have the following form:

N.A.S.A. TEST SITE NO. 1 PISGAH CRATER AREA, CALIFORNIA

NORTHWESTERN U. SAMPLE GRID NO. 1 PHOTO POINT-COUNT DATA ANALYSIS

Cards Identifying Variables

One identification card must be included for each dependent variable. The number of cards must be the same as the number punched in column 7 of the first control card.

The cards should contain a number or blanks in column 1 and 2, and alphabetical or numerical information in columns 3 - 38. For example:

b2 PERCENTAGE OF PEBBLE SIZE MATERIAL

If columns 1 and 2 are blank or 0, the variable will be numbered according to its sequence in the deck. If columns 1 and 2 contain a number, this number will be used to refer to the variable. For example, if two identification cards are included and are punched only as QUARTZ and POTASH FELDSPAR, beginning in column 3 on each card, then these variables will be referred to in the printout as X₁ and X₂, respectively. If, however, they are listed as 12QUARTZ and 15POTASH FELDSPAR, beginning in column 1 of each card, they will be called X₁₂ and X₁₅.

If the data cards contain information for eight dependent variables and it is desired to use only X₅-X₈, skipping X₁-X₄, the variables used may be numbered on the identification cards to conform to their places on the data cards. In this case a variable format would be used for input and a 2 must be punched in column 11 of the first control card.

Variable-format Card for Input Data

In all cases where the input data cards do not have a format of

(6XI4,10F6.3), a variable-format card must be included in the deck and 2 must be punched in column 11 of the first control card. The variable format may be punched in columns 1 - 72 of the card.

When some values of X_n on the data cards are to be skipped, a variable format is used to tell the program which values to use. In the example given in the previous paragraph, where it is required to skip X_1 - X_4 , the variable format could be (6XI4,2F6.3,24X4F6.3); the program would then read U and V, skip the first four values of X_n , and read X_5 through X_g .

Variable-format Card for Punching New Data Deck

If the input data are transformed, or the axes are changed, it may be useful to obtain a new revised data deck. 1 should then be punched in column 18 of the first control card and an output format card should be included. The card deck produced will have the following format:

Columns 1 - 6 - project number (any alpha-numerical number can be supplied)
7 - 10 - sample site numbers
11 - 72 - data in any desired columns and format
73 - 78 - project number (as in columns 1 - 6)
79 - 80 - serial numbering of the cards

The variable-format card must have the following form: columns 1 through 6 are punched with the project number required for the new data cards; columns 7 - 72 contain the actual format required on the cards, and the format statement must account for all columns 11 through 72 so that the items intended for columns 73 through 80 are properly sited. For example, a card might read:

04174B(A6,I4,2F6.1,4F6.2,3F6.3,8XA6,I2)

where 04174B is the required new project number.

Card Specifying Scaling Factors Desired for U,V-Matrix

The built-in scaling options provided by punching 2 or 3 in column 13 of the first control card are not always adequate. Sometimes the powers of U remain smaller than the powers of V (or vice versa) in the scaled matrix, so that scale factors with larger values for V could be used to ensure that the matrix elements decrease along the diagonal. This can be accomplished

by punching 1 in column 13 of the first control card and including a scales card in the data deck as follows:

If there are n dependent variables X_n , the card must be punched with $n + 2$ numbers each using 7 columns; that is, scale values are specified for U , V , and each X_n . The numbers are punched in the first $n + 2$ fields across a card; for example:

5.bbbbb10.bbbb8.bbbbb17.bbbb

could be used if only two dependent variables (X_n) are being read. The scaling values actually used by the program will be 4, 8, 8, and 16 for U , V , X_1 , and X_2 , respectively, since these are the numbers, or are the next lower powers of 2 than the numbers, punched on the card.

Transformation Card

To transform one or more of the variables U , V , or X_n , 1 is punched in column 12 of the first control card and a transformation card is included in the data deck. The transformation card contains from 3 to $n + 2$ punches that tell subroutine TRANS which transformations to perform on each variable independently. The punched digits are punched in the first $n + 2$ columns of the transformation card as follows:

Punch	Transformation
0	none
1	X_n to $\log_{10} X_n$
2	X_n to $\log_e X_n$
3	X_n to $\log_e (X_n + 50)$
4	X_n to $(X_n)^{1/2}$
5 through 9	none (available for additional transformations)

Transformations specified for X_n also apply to U and V . For example, suppose that U , V , X_3 and X_5 are being read from the data deck and X_3 is to be replaced by $\log_e X_3$. The transformation card is punched:

0020bbbb

Subroutine TRANS is called each time a data card is read and the four codes (0,0,2,0) tell the program to leave U , V , and X_5 unchanged, but to compute $\log_e X_3$ and replace this for the original X_3 in all further processes.

LOCATION OF SAMPLING GRID
Northwest end of N.A.S.A Test Site
Pisgah Crater area, California

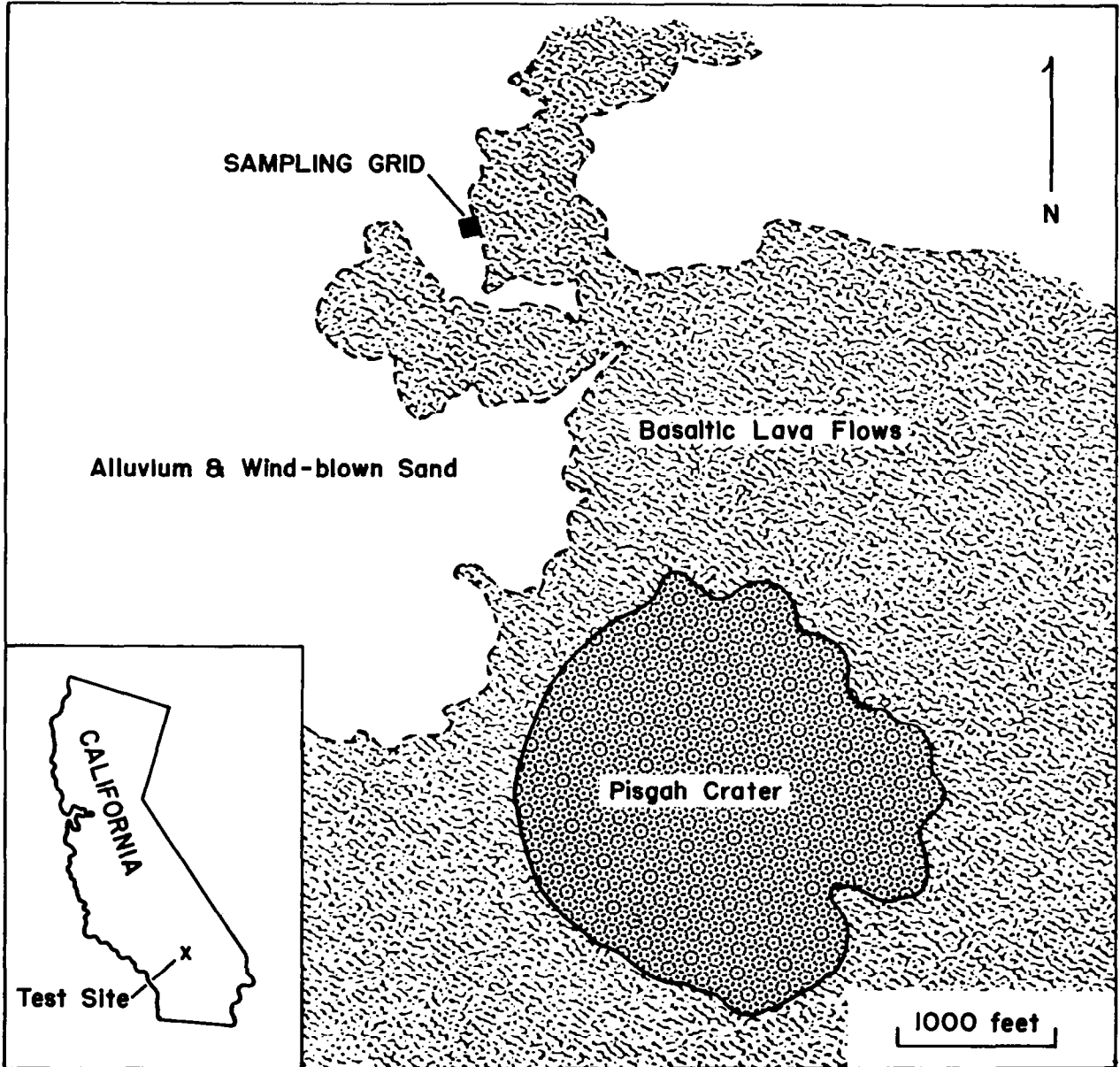


Figure 1.

The user can insert any other desired transformation in the subroutine in positions called by punches 5 through 9. Subroutine TRANS can be recompiled and added to the binary deck after removing the one which is already included.

Once variables have been transformed, the original values are destroyed and the transformed values are treated as the original data.

Shift Card

If a shift of the axes or of X_n is required, 1 is punched in column 25 of the first control card and a shift card must be included with the data. The shift card contains the actual values to be subtracted from the input data. The positive, negative, or zero values to be subtracted separately from U, V, and each X_n are punched in the first $n + 2$ fields of seven columns each; the decimal point must be included in the field.

Nines Card

At the end of the deck of data cards an end-of-data signal is used. Normally, 99999. is punched in the U field of the Nines Card, but, if a different value is used, columns 64 - 72 of the second control card must be changed to the new value less 1. For example, if U is specified in fields of five on the data cards, the signal on the Nines Card could be 9999. and then 00009998. would be punched on the second control card.

OPERATION OF THE PROGRAM

The foregoing instructions show that numerous variations can be introduced into the program to meet special individual requirements. It is inappropriate to illustrate all the different types of output that can be obtained. Rather, a simple example based on the NASA Pisgah Crater Test Site, California, is appended.

The raw data have been obtained by point counting 35 mm. Kodachrome transparencies for 49 sample sites within a small area NW of Pisgah Crater (Fig. 1). The photographs were taken vertically from a height of 4 feet. The sampled area includes outwash gravel that is in part unconformably overlain by basalt; wind blown sand overlies both the gravel and the basalt in parts of the area. The measured attribute (X_1) used for this illustration is the percentage of sand-size material exposed at the lithosphere-atmosphere interface. Figures 2 and 3 show the raw data contoured manually by two different geologists; these figures illustrate the fact that hand-drawn contours commonly show markedly dissimilar patterns. Because only 49

Table 3

D A T A

ID	U	V	X 1
1A	2.000	2.000	56.600
1B	2.000	6.000	70.100
1C	2.000	10.000	68.200
1D	2.000	14.000	41.200
1E	2.000	18.000	42.100
1F	2.000	22.000	35.900
1G	2.000	26.000	19.600
2A	6.000	2.000	45.200
2B	6.000	6.000	74.200
2C	6.000	10.000	65.900
2D	6.000	14.000	59.000
2E	6.000	18.000	68.500
2F	6.000	22.000	63.700
2G	6.000	26.000	73.300
3A	10.000	2.000	74.000
3B	10.000	6.000	91.600
3C	10.000	10.000	44.900
3D	10.000	14.000	66.400
3E	10.000	18.000	40.900
3F	10.000	22.000	66.800
3G	10.000	26.000	53.400
4A	14.000	2.000	80.200
4B	14.000	6.000	80.100
4C	14.000	10.000	80.900
4D	14.000	14.000	71.600
4E	14.000	18.000	64.800
4F	14.000	22.000	48.800
4G	14.000	26.000	57.200
5A	18.000	2.000	72.300
5B	18.000	6.000	71.300
5C	18.000	10.000	70.000
5D	18.000	14.000	81.000
5E	18.000	18.000	80.800
5F	18.000	22.000	84.600
5G	18.000	26.000	54.100
6A	22.000	2.000	64.600
6B	22.000	6.000	61.900
6C	22.000	10.000	58.400
6D	22.000	14.000	49.900
6E	22.000	18.000	54.500
6F	22.000	22.000	61.500
6G	22.000	26.000	73.900
7A	26.000	2.000	63.800
7B	26.000	6.000	49.600
7C	26.000	10.000	52.000
7D	26.000	14.000	50.800
7E	26.000	18.000	44.600
7F	26.000	22.000	31.200
7G	26.000	26.000	42.800

Table 2

N.A.S.A. TEST SITE NO. 1 PISGAH CRATER AREA, CALIFORNIA
 NORTHWESTERN U. SAMPLE GRID NO. 1 PHOTO POINT-COUNT DATA ANALYSIS
 DECK NUMBER 000020; DEGREES 1 THROUGH 4 REQUESTED

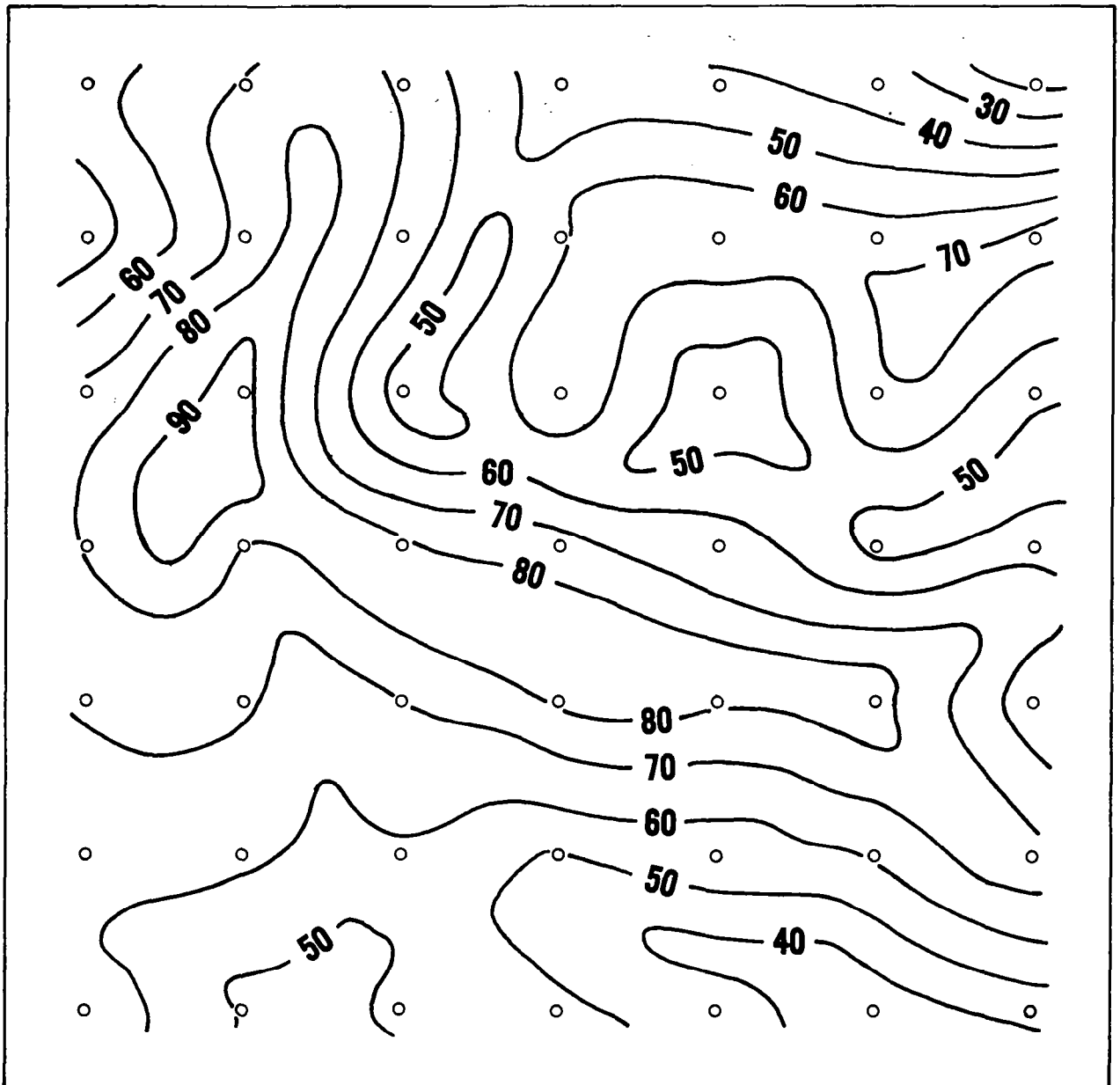
DEPENDENT VARIABLES

X 1 PERCENT SAND AND FINER MATERIAL

RAW DATA MAP

Percentage of sand and finer material (less than 2 mm.)

Interpretation A



○ Sample Location

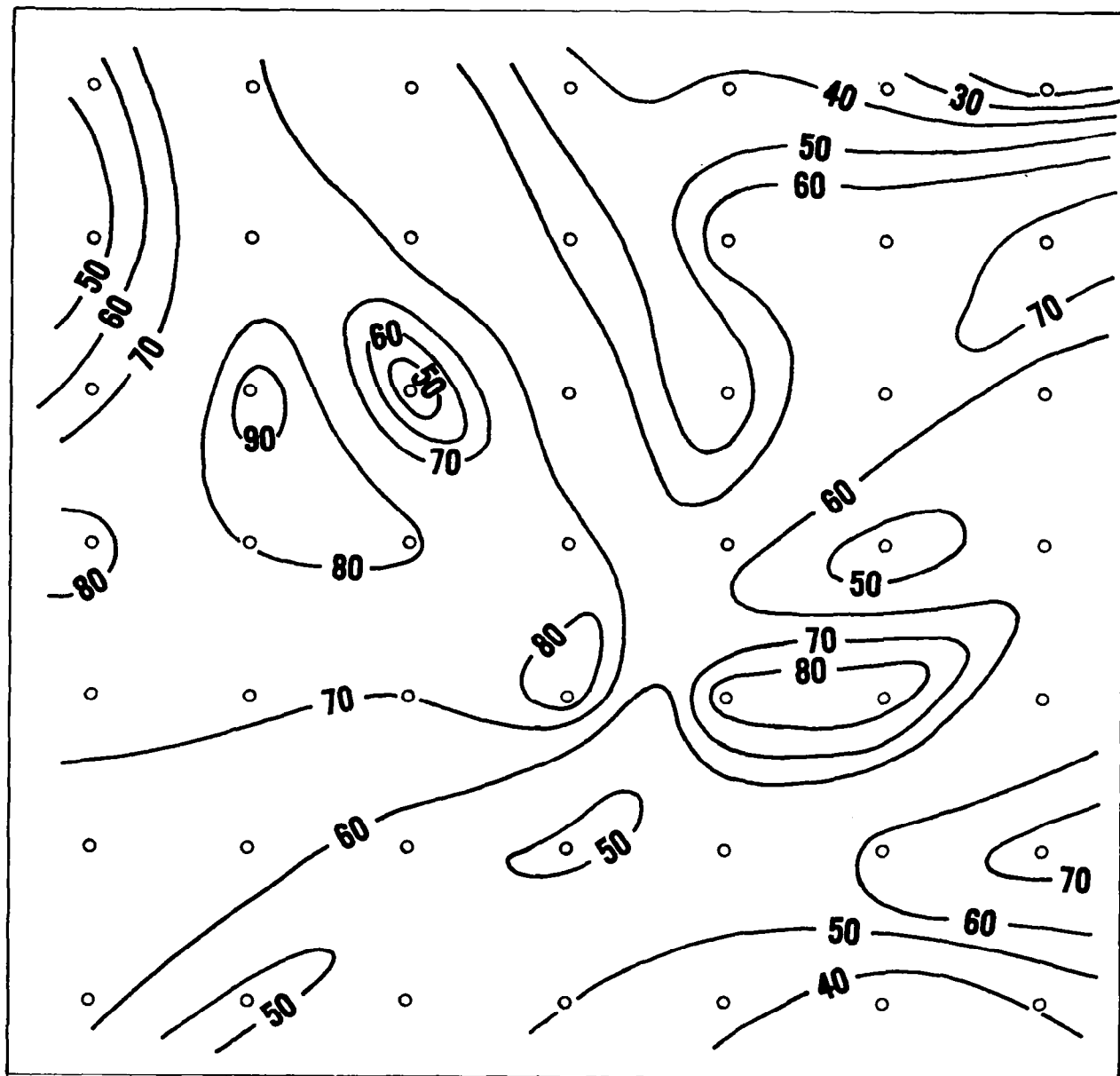
4 feet

Figure 2.

RAW DATA MAP

Percentage of sand and finer material (less than 2 mm.)

Interpretation B



○ Sample Location

4 feet

Figure 3.

sample sites are involved the highest degree trend component illustrated is the fourth (see Table 1).

The program output starts with the two title cards (Table 2) followed by the project number and statement of the degrees for which computations were requested; a list of the dependent variables is also included. Table 3 shows the original data reproduced from the data cards. Next, provided that lists of the matrices, etc. are not called, the program lists (i) the percentages of the total sums of squares accounted for by the surfaces of each degree, and (ii) the coefficients for the equations of each degree (Table 4). The coefficients run across the page in the sequence indicated previously for equation (1). Thus, for example, the degree 1 surface accounts for 11.715 per cent of the total sum of squares and the equation is:

$$X_1 = 69.266580 + 0.037244898U - 0.64272959V \quad (7)$$

The coefficients can be obtained on card output for use in a standard continuous-symbol map-printing program. Alternatively, computed values on the trend surfaces can be computed at each sample site (Tables 5 and 7) as a basis for objective drawing of contoured maps. Figure 4 shows the objective machine-contoured degree 4 trend surface map for X_1 ; this surface accounts for 52 per cent of the total variability. The departures of the observed X_1 values from the computed surfaces are also listed as RESIDUAL in Tables 5 and 7; these values form the bases of deviation maps for each degree. Such maps are of considerable significance in drawing attention to significant local geological departures from the regional trend; the use of deviation maps was described by Whitten^{1,9}, Allen and Krumbein⁷, and Dawson and Whitten⁸. Figure 5 is the degree 4 deviation map for X_1 . The two largest deviations (labelled A and B, Fig. 5) correspond to sample sites whose surface area is occupied by 47 and 24 per cent vegetation (bushes), respectively.

Tables 6 and 8 provide checks on the results computed. The sum of squares of each column (excluding U and V) in Tables 5 and 7 are given. The percentages of the total sums of squares based on the data listed in Tables 5 and 7 are compared with values obtained from internal checks based on the U,V-matrix; should the original and recomputed values differ appreciably, an inadequate solution to the simultaneous equations has been obtained and a different method of deriving the coefficients should be tried.

Finally, the program prints out the values punched on the first control card and all the actual values used by the program. The 'variable' subroutines that have been used for the various computations are also listed under the heading MATRIX SUBROUTINES CALLED (Table 9). The type of scaling, if any, is also stated.

In the example described above gridded data were employed, but the program is specially designed for the use of irregularly-spaced samples. The series of trend surfaces shown in Figure 6 was computed for 686 gold

Table 4

X 1 PERCENT SAND AND FINER MATERIAL

DEG	PCT.RED.IN SUM OF SQ.	COEFFICIENTS, C(I), I=0, DEG					
1	11.715	6.9266580E 01	3.7244898E-02	-6.4272959E-01			
2	44.967	5.3276817E 01	4.0039487E 00	-8.8465667E-01	-1.5393282E-01	2.4529656E-02	-3.6245751E-03
3	49.174	5.1556802E 01 -3.0939979E-03	1.5667951E 00 -3.8192230E-03	2.2001815E 00 4.0357939E-03	2.9484214E-02 4.2162697E-03	1.8465669E-02	-2.3720902E-01
4	52.364	2.8134113E 01 2.5632723E-02 -7.5456624E-05	5.1357375E 00 -8.6725820E-03 -5.8438738E-04	1.1694595E 01 3.0692849E-02 -8.2479366E-04	-4.5006531E-01 5.8586138E-02	-2.3991108E-01 -5.5444231E-04	-1.4344352E 00 1.6586059E-04

DEGREE 4 TREND SURFACE MAP

Percentage of sand and finer material (less than 2 mm.)

Sum of squares reduction - 52 %

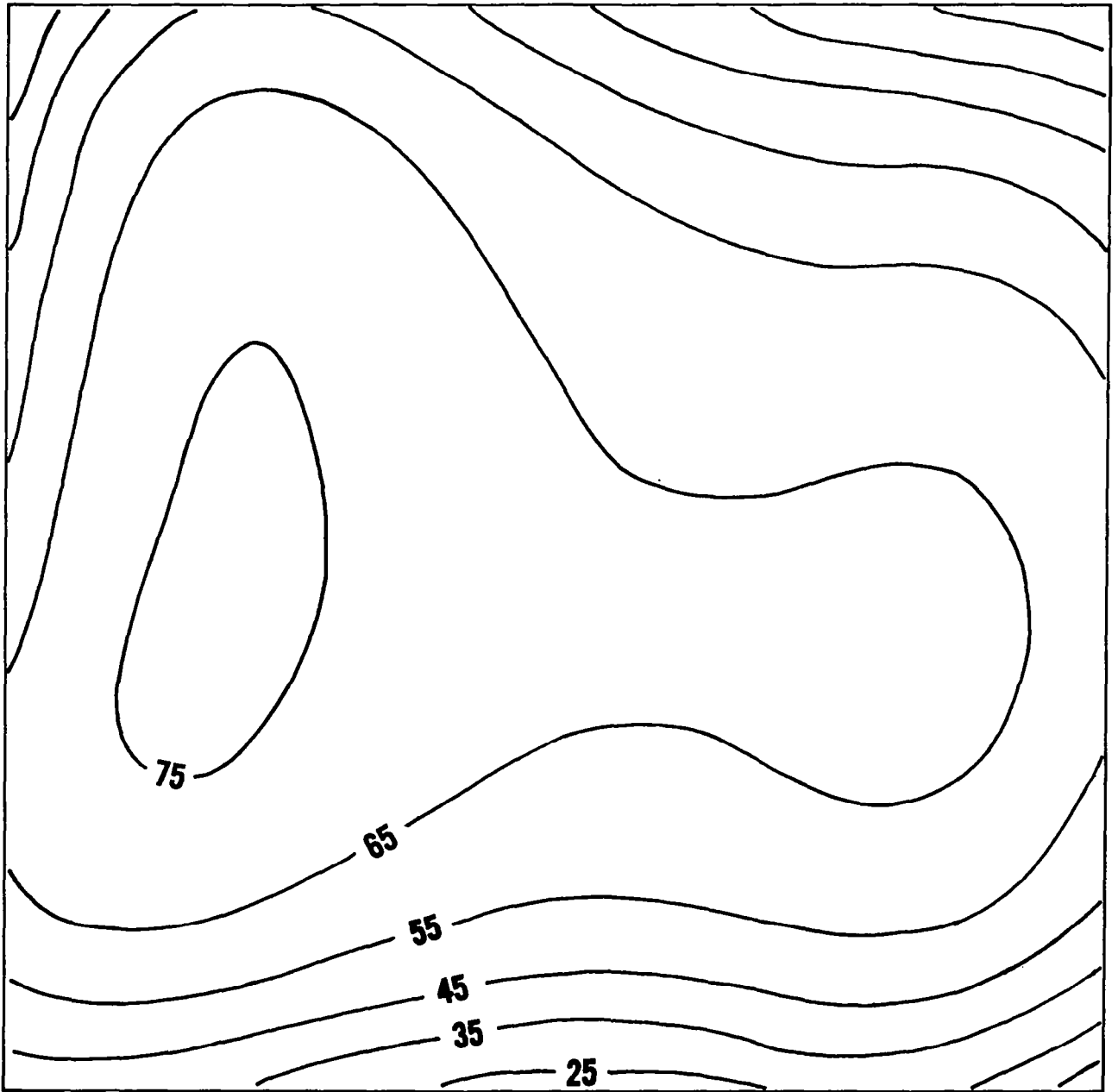
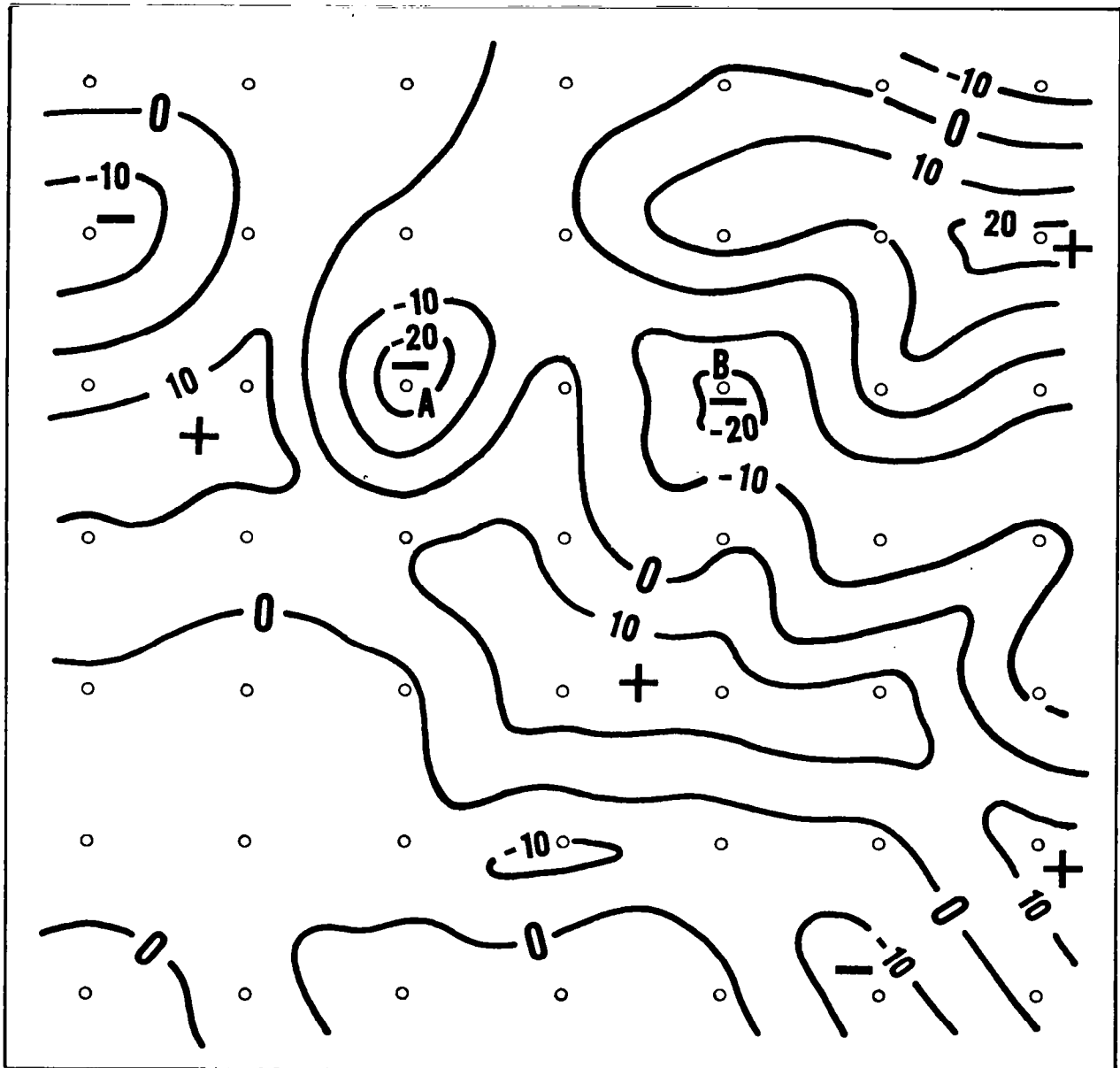


Figure 4.

DEVIATION MAP

Deviation from degree 4 surface in percent



○ Sample Location

4 feet

Figure 5.

Table 5

X 1 PERCENT SAND AND FINER MATERIAL

ID	U	V	X OBS.	D E G R E E 1			D E G R E E 2			D E G R E E 3		
				X COMP.	RESIDUAL		X COMP.	RESIDUAL		X COMP.	RESIDUAL	
1A	2,000	2,000	56.600	68.056	-11.456	58.983	-2.383	58.344	-1.744			
1B	2,000	6,000	70.100	65.485	4.615	55.525	14.575	60.776	9.324			
1C	2,000	10,000	68.200	62.914	5.286	51.951	16.249	58.304	9.896			
1D	2,000	14,000	41.200	60.343	-19.143	48.260	-7.060	52.548	-11.348			
1E	2,000	18,000	42.100	57.772	-15.672	44.454	-2.354	45.125	-3.025			
1F	2,000	22,000	35.900	55.201	-19.301	40.532	-4.632	37.656	-1.756			
1G	2,000	26,000	19.600	52.630	-33.030	36.493	-16.893	31.760	-12.160			
2A	6,000	2,000	45.200	68.205	-23.005	70.269	-25.069	64.879	-19.679			
2B	6,000	6,000	74.200	65.634	8.566	67.204	6.996	67.635	6.565			
2C	6,000	10,000	65.900	63.063	2.837	64.022	1.878	66.002	-0.102			
2D	6,000	14,000	59.000	60.492	-1.492	60.724	-1.724	61.602	-2.602			
2E	6,000	18,000	68.500	57.921	10.579	57.310	11.190	56.053	12.447			
2F	6,000	22,000	63.700	55.350	8.350	53.780	9.920	50.973	12.727			
2G	6,000	26,000	73.300	52.779	20.521	50.134	23.166	47.982	25.318			
3A	10,000	2,000	74.000	68.354	5.646	76.630	-2.630	70.331	3.669			
3B	10,000	6,000	91.600	65.783	25.817	73.956	17.644	72.921	18.679			
3C	10,000	10,000	44.900	63.212	-18.312	71.167	-26.267	71.639	-26.739			
3D	10,000	14,000	66.400	60.641	5.759	68.262	-1.862	68.107	-1.707			
3E	10,000	18,000	40.900	58.070	-17.170	65.240	-24.340	63.941	-23.041			
3F	10,000	22,000	66.800	55.499	11.301	62.103	4.697	60.762	6.038			
3G	10,000	26,000	53.400	52.928	0.472	58.849	-5.449	60.189	-6.789			
4A	14,000	2,000	80.200	68.503	11.697	78.064	2.136	73.512	6.688			
4B	14,000	6,000	80.100	65.932	14.168	75.783	4.317	75.447	4.653			
4C	14,000	10,000	80.900	63.361	17.539	73.386	7.514	74.028	6.872			
4D	14,000	14,000	71.600	60.790	10.810	70.873	0.727	70.873	0.727			
4E	14,000	18,000	64.800	58.219	6.581	68.245	-3.445	67.603	-2.803			
4F	14,000	22,000	48.800	55.648	-6.848	65.500	-16.700	65.836	-17.036			
4G	14,000	26,000	57.200	53.077	4.123	62.639	-5.439	67.191	-9.991			
5A	18,000	2,000	72.300	68.652	3.648	74.573	-2.273	73.234	-0.934			
5B	18,000	6,000	71.300	66.081	5.219	72.684	-1.384	74.025	-2.725			
5C	18,000	10,000	70.000	63.510	6.490	70.680	-0.680	71.979	-1.979			
5D	18,000	14,000	81.000	60.939	20.061	68.560	12.440	68.714	12.286			
5E	18,000	18,000	80.800	58.368	22.432	66.323	14.477	65.851	14.949			
5F	18,000	22,000	84.600	55.797	28.803	63.971	20.629	65.006	19.594			
5G	18,000	26,000	54.100	53.226	0.874	61.502	-7.402	67.801	-13.701			
6A	22,000	2,000	64.600	68.801	-4.201	66.156	-1.556	68.308	-3.708			
6B	22,000	6,000	61.900	66.230	-4.330	64.660	-2.760	67.467	-5.567			
6C	22,000	10,000	58.400	63.659	-5.259	63.048	-4.648	64.305	-5.905			
6D	22,000	14,000	49.900	61.088	-11.188	61.320	-11.420	60.441	-10.541			
6E	22,000	18,000	54.500	58.517	-4.017	59.476	-4.976	57.495	-2.995			
6F	22,000	22,000	61.500	55.946	5.554	57.516	3.984	57.085	4.415			
6G	22,000	26,000	73.900	53.375	20.525	55.440	18.460	60.830	13.070			
7A	26,000	2,000	63.800	68.949	-5.149	52.813	10.987	57.546	6.254			
7B	26,000	6,000	49.600	66.379	-16.779	51.709	-2.109	54.584	-4.984			
7C	26,000	10,000	52.000	63.808	-11.808	50.490	1.510	49.818	2.182			
7D	26,000	14,000	50.800	61.237	-10.437	49.154	1.646	44.866	5.934			
7E	26,000	18,000	44.600	58.666	-14.066	47.703	-3.103	41.349	3.251			
7F	26,000	22,000	31.200	56.095	-24.895	46.135	-14.935	40.884	-9.684			
7G	26,000	26,000	42.800	53.524	-10.724	44.452	-1.652	45.091	-2.291			

Table 6

X 1	PERCENT SAND AND FINER MATERIAL	D E G R E E 1			D E G R E E 2		D E G R E E 3	
	SUM OF SQUARES	1.9217E 05	1.8237E 05	9.7957E 03	1.8606E 05	6.1062E 03	1.8653E 05	5.6394E 03
	PCT. REDUCTION							
	ORIGINAL			11.715		44.967		49.174
	RECOMPUTED			11.715		44.967		49.175
	DIFFERENCE			-0.000		-0.000		-0.000

Table 7

ID	X 1 PERCENT SAND AND FINER MATERIAL		D E G R E E 4		
	U	V	X OBS.	X COMP.	RESIDUAL
1A	2,000	2,000	56,600	54.117	2,483
1B	2,000	6,000	70,100	65.783	4,317
1C	2,000	10,000	68,200	60.450	7,750
1D	2,000	14,000	41,200	50.032	-8,832
1E	2,000	18,000	42,100	41.376	0,724
1F	2,000	22,000	35,900	36.258	-0,358
1G	2,000	26,000	19,600	31.389	-11,789
2A	6,000	2,000	45,200	62.937	-17,737
2B	6,000	6,000	74,200	73.157	1,043
2C	6,000	10,000	65,900	68.884	-2,984
2D	6,000	14,000	59,000	61.133	-2,133
2E	6,000	18,000	68,500	55.853	12,647
2F	6,000	22,000	63,700	53.924	9,776
2G	6,000	26,000	73,300	51.159	22,141
3A	10,000	2,000	74,000	67.630	6,370
3B	10,000	6,000	91,600	75.599	16,001
3C	10,000	10,000	44,900	71.503	-26,603
3D	10,000	14,000	66,400	65.460	0,940
3E	10,000	18,000	40,900	62.519	-21,619
3F	10,000	22,000	66,800	62.665	4,135
3G	10,000	26,000	53,400	60.811	-7,411
4A	14,000	2,000	80,200	71.353	8,847
4B	14,000	6,000	80,100	76.521	3,579
4C	14,000	10,000	80,900	71.974	8,926
4D	14,000	14,000	71,600	66.933	4,667
4E	14,000	18,000	64,800	65.550	-0,750
4F	14,000	22,000	48,800	66.910	-18,110
4G	14,000	26,000	57,200	65.031	-7,831
5A	18,000	2,000	72,300	73.856	-1,556
5B	18,000	6,000	71,300	75.927	-4,627
5C	18,000	10,000	70,000	70.557	-0,557
5D	18,000	14,000	81,000	66.068	14,932
5E	18,000	18,000	80,800	65.714	15,086
5F	18,000	22,000	84,600	67.685	16,915
5G	18,000	26,000	54,100	65.099	-10,999
6A	22,000	2,000	64,600	71.485	-6,885
6B	22,000	6,000	61,900	70.418	-8,518
6C	22,000	10,000	58,400	64.106	-5,706
6D	22,000	14,000	49,900	59.973	-10,073
6E	22,000	18,000	54,500	60.377	-5,877
6F	22,000	22,000	61,500	62.608	-1,108
6G	22,000	26,000	73,900	58.888	15,012
7A	26,000	2,000	63,800	57.176	6,624
7B	26,000	6,000	49,600	53.186	-3,586
7C	26,000	10,000	52,000	46.068	5,932
7D	26,000	14,000	50,800	42.351	8,449
7E	26,000	18,000	44,600	43.494	1,106
7F	26,000	22,000	31,200	45.890	-14,690
7G	26,000	26,000	42,800	40.863	1,937

Table 8

X 1 PERCENT SAND AND FINER MATERIAL

D E G R E E 4

SUM OF SQUARES	1.9217E 05	1.8688E 05	5.2854E 03
PCT. REDUCTION	ORIGINAL		52.364
	RECOMPUTED		52.365
	DIFFERENCE		-0.000

Table 9

END OF RESULTS FOR DECK 000020
 PROCESSED FOR DEGREES 1 THROUGH 4
 DEGREES 1 THROUGH 4 REQUESTED

MATRIX SUBROUTINES CALLED
 SCLW2

NO SCALING OF UV MATRIX

CONTROL CARDS

COL	1	2	3	4	5	6	7	8
	6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0 2 4 6 8 0	2 4 6 8 0
	000020114320000100000240000000000000-0-0-0-00.							
	000020114320000100000240000000000009-0-0-0-01.000							
	-0.	-0.	-0.	-0.	-0.	-0.	99998;	

CARD 1, VALUES READ
 AFTER EXECUTION
 VALUES FROM CARD 2

assay values in a conglomerate at sample sites approximately 50 feet apart within an area of about 0.08 square miles. The progressive complexity of surfaces of degree 1 through 8 is clear; 60 per cent of the total sum of squares is accounted for by the eighth degree surface. Whitten² demonstrated the value of second rank trend components for separating the local geological variability from the regional trend, and simultaneously screening out sporadic noise or variability that cannot be predicted adequately with the data density available. Second rank surfaces comprise a high degree component minus a low degree component, where the latter adequately represents the regional trend of the data. In Figure 6 the eighth minus third second rank trend component is illustrated; based on the assumption that the third degree surface accounts for the regional trend, this (8 - 3) surface represents the main local geological effects with the noise components screened out. Since computed values for X_n for any surfaces of degrees 1 through 8 can be obtained with the present program, second rank trend components can also be generated easily.

TREND SURFACE MAPS

Number of data points - 686

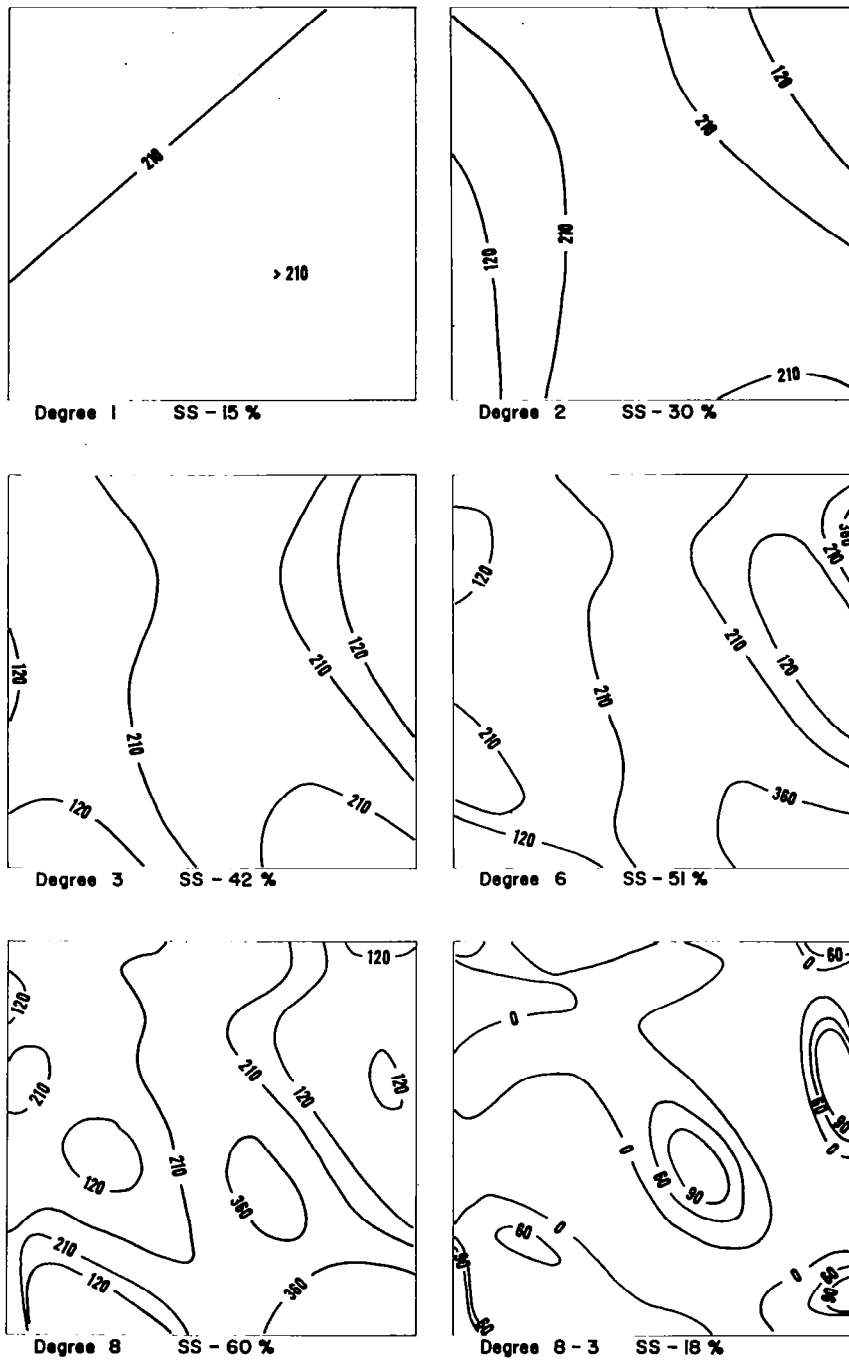


Figure 6.

APPENDIX A

COMPLETE FORTRAN II LISTING OF THE EIGHTH DEGREE TREND
SURFACE PROGRAM

MPLSQ

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      FORTRAN
      DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8,MPLSQ 1
18),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12) MPLSQ 2
D  DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)MPLSQ 3
1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1),MPLSQ 4
2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),SCA(10) MPLSQ 5
COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT, MPLSQ 6
INCOE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,NSAVE, MPLSQ 7
2NVSAV,MSV,MSV2,NLST,NC2,NV2,NV3 MPLSQ 8
EQUIVALENCE (NODECK,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLAST,NT(4))MPLSQ 9
1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMPMPLSQ 10
2,MTEMP),(C,MC),(B,MB),(Y,MY),(X,MX),(XX,MXX),(DET,MDET),(XNORM,NORMMPLSQ 11
3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV) MPLSQ 12
DIMENSION KARD(40) MPLSQ 13
B  BLANK=60606060606060 MPLSQ 14
NSAVE=0 MPLSQ 15
NVSAV=0 MPLSQ 16
NCT(1)=3 MPLSQ 17
DO 5 I=2,16 MPLSQ 18
5 NCT(I)=NCT(I-1)+I+1 MPLSQ 19
NCOE(1)=0 MPLSQ 20
DO 10 I=2,9 MPLSQ 21
10 NCOE(I)=NCOE(I-1)+8*NCT(I-1) MPLSQ 22
20 MTEMP=NT(8) MPLSQ 23
TEMP(2)=Q MPLSQ 24
READ INPUT TAPE 5,900,NT MPLSQ 25
DO 25 I=1,40 MPLSQ 26
25 KARD(I)=NT(I) MPLSQ 27
NRESET=XMAXOF(NRESET,NFIRST,1) MPLSQ 28
IERR=0 MPLSQ 29
READ INPUT TAPE 5,901,(TIT(I),I=49,72) MPLSQ 30
WRITE OUTPUT TAPE 6,906,(TIT(I),I=49,72) MPLSQ 31
IF (NLAST) 26,26,27 MPLSQ 32
26 NLAST=8 MPLSQ 33
GO TO 28 MPLSQ 34
27 NLAST=XMINOF(NLAST,8) MPLSQ 35
28 IF (NV) 280,280,30 MPLSQ 36
30 IF (NV-8) 32,32,280 MPLSQ 37
32 IF (NT(6)) 35,35,40 MPLSQ 38
35 NT(8)=MTEMP MPLSQ 39
KARD(8)=MTEMP MPLSQ 40
Q=TEMP(2) MPLSQ 41
NV=XMINOF(NV,NVSAV) MPLSQ 42
NLAST=XMINOF(NLAST,NSAVE) MPLSQ 43
CALL RESET(L) MPLSQ 44
GO TO (290,75),L MPLSQ 45
40 READ INPUT TAPE 5, 902, (NVJ(J), (TIT(I,J),I=1,6), J=1,NV) MPLSQ 46
DO 60 J=1,NV MPLSQ 47
IF (NVJ(J)) 55,55,60 MPLSQ 48
55 NVJ(J)=J MPLSQ 49
60 CONTINUE MPLSQ 50
75 NFIRST=XMAXOF(NFIRST,1) MPLSQ 51
NFIRST=XMINOF(NFIRST,NLAST) MPLSQ 52
WRITE OUTPUT TAPE 6, 904, NODECK,NFIRST,NLAST MPLSQ 53
WRITE OUTPUT TAPE 6, 903, (NVJ(J), (TIT(I,J),I=1,6), J=1,NV) MPLSQ 54
IF (Q) 85,85,87 MPLSQ 55

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MPLSQ

85 Q=1.	MPLSQ 56
87 IF (NT(30)) 88,88,90	MPLSQ 57
88 NT(30)=9	MPLSQ 58
90 IF (TEST(8)) 95,95,100	MPLSQ 59
95 TEST(8)=99998.	MPLSQ 60
100 DO 115 I=1,12	MPLSQ 61
115 ZNAME(I)=BLANK	MPLSQ 62
DO 120 I=1,8	MPLSQ 63
120 TITL(I)=0.	MPLSQ 64
NLST=NLAST+NLAST	MPLSQ 65
NV2=NV+2	MPLSQ 66
NV3=NV2+1	MPLSQ 67
IF (NT(6)) 135,135,140	MPLSQ 68
135 WRITE OUTPUT TAPE 6,927	MPLSQ 69
GO TO 158	MPLSQ 70
140 CALL PLSQ2	MPLSQ 71
IF (IERR+1) 192,195,158	MPLSQ 72
158 IF (NT(16)) 160,160,159	MPLSQ 73
159 CALL MXTEST	MPLSQ 74
B TITL(1)=242563337325	MPLSQ 75
B TITL(2)=312725456533	MPLSQ 76
IF (IERR+1) 192,195,160	MPLSQ 77
160 IF (NT(17)) 195,195,165	MPLSQ 78
165 CALL PLSQ4	MPLSQ 79
B TITL(3)=234625262631	MPLSQ 80
B TITL(4)=233125456362	MPLSQ 81
IF (IERR+1) 192,195,170	MPLSQ 82
170 IF (NT(18)) 180,180,175	MPLSQ 83
175 CALL PRESID	MPLSQ 84
B TITL(5)=512562312464	MPLSQ 85
B TITL(6)=214362606060	MPLSQ 86
180 IF (NT(19)) 195,195,185	MPLSQ 87
185 IF (NT(29)) 188,188,187	MPLSQ 88
187 TIM(4)=TIMEF(0)	MPLSQ 89
188 CALL SPEC	MPLSQ 90
IF (NT(29)) 195,195,190	MPLSQ 91
190 TIM(4)=TIMEF(0)-TIM(4)	MPLSQ 92
B TITL(7)=624725233360	MPLSQ 93
B TITL(8)=234644473360	MPLSQ 94
GO TO 195	MPLSQ 95
192 WRITE OUTPUT TAPE 6, 914	MPLSQ 96
195 WRITE OUTPUT TAPE 6, 910, NODECK,NFIRST,NLAST,KARD(3),KARD(4),ZNAM	MPLSQ 97
1E	MPLSQ 98
IF (KARD(8)) 220,220,215	MPLSQ 99
215 WRITE OUTPUT TAPE 6, 915, KARD(8)	MPLSQ 00
IF (NT(8)) 220,220,225	MPLSQ 01
220 WRITE OUTPUT TAPE 6, 912	MPLSQ 02
225 IF (NT(29)) 250,250,235	MPLSQ 03
235 WRITE OUTPUT TAPE 6, 920	MPLSQ 04
DO 245 I=1,4	MPLSQ 05
IF (TITL(2*I)) 240,245,240	MPLSQ 06
240 WRITE OUTPUT TAPE 6,921,TIM(I),TITL(2*I-1),TITL(2*I)	MPLSQ 07
245 CONTINUE	MPLSQ 08
250 WRITE OUTPUT TAPE 6, 913, (I,I=1,8), KARD,NT	MPLSQ 09
IF (IERR+1) 275,20,20	MPLSQ 10
275 CALL EXIT	MPLSQ 11

MPLSQ

280	KD=7	MPLSQ 12
	GO TO 300	MPLSQ 13
290	KD=11	MPLSQ 14
300	IERR=-2	MPLSQ 15
	WRITE OUTPUT TAPE 6,905,KD	MPLSQ 16
	GO TO 250	MPLSQ 17
900	FORMAT(A6,29I1,5I2,F5.3,3A6,A4/7E9.2,F9.0)	MPLSQ 18
901	FORMAT(12A6)	MPLSQ 19
902	FORMAT(I2,6A6)	MPLSQ 20
903	FORMAT(1H03X1HX12,2X6A6)	MPLSQ 21
904	FORMAT(12H0DECK NUMBERA7,10H, DEGREESI2,8H THROUGHI2,10H REQUESTEMPLSQ 22	
	1D/1H0/20H0DEPENDENT VARIABLES)	MPLSQ 23
905	FORMAT(1H0/24H0ILLEGAL VALUE IN COLUMNI3,22H OF FIRST CONTROL CARDMPLSQ 24	
	1/16H0PROGRAM STOPPED)	MPLSQ 25
906	FORMAT(1H1/3(1H0/)/(1H012A6))	MPLSQ 26
910	FORMAT(24H1END OF RESULTS FOR DECKA7/25H0 PROCESSED FOR DEGREES MPLSQ 27	
	1I2,8H THROUGHI2/11H0 DEGREESI2,8H THROUGHI2,10H REQUESTED/1H0/ MPLSQ 28	
	1 26H0MATRIX SUBROUTINES CALLED/(1H0A9,3A10))	MPLSQ 29
912	FORMAT(/24H0ND SCALING OF UV MATRIX)	MPLSQ 30
913	FORMAT(1H0/14H0CONTROL CARDS/4H0COL8I10/9X5H6 8 0,7(10H 2 4 6 8 0)MPLSQ 31	
	1/4XA6,29I1,5I2,F5.3,3A6,A4,8X19HCARD 1, VALUES READ/4XA6,29I1,5I2,MPLSQ 32	
	1F5.3,3A6,A4,8X15HAFTER EXECUTION/4X1P7E9.2,OPF9.0,8X18HVALUES FROMMPLSQ 33	
	1 CARD 2)	MPLSQ 34
914	FORMAT(1H0/16H0PROGRAM STOPPED)	MPLSQ 35
915	FORMAT(15H0SCALING METHOD I2,10H REQUESTED)	MPLSQ 36
920	FORMAT(1H0/18H0COMPUTATION TIMES)	MPLSQ 37
921	FORMAT(1H0F7.2,2X2A6)	MPLSQ 38
927	FORMAT(1H0/32H0SAME UV MATRIX AS PREVIOUS TEST)	MPLSQ 39
	END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)	

MPLSQ

00000	-342647633460	00	(FPT)	BCD	1(FPT)	00070	+000000001227	010	PZE	8)S4		
00001	-346362303460	00	(TSH)	BCD	1(TSH)	00071	+007400400002	010	TSX	(SLI),4		
00002	-346243313460	00	(SLI)	BCD	1(SLI)	00072	+000000077462	010	PZE	NT+1		
00003	-345163453460	00	(RTN)	BCD	1(RTN)	00073	+000000000060	00	PZE	48		
00004	-346263303460	00	(STH)	BCD	1(STH)	00074	+007400400003	010	TSX	(RTN),4		
00005	-342631433460	00	(FIL)	BCD	1(FIL)	00075	-053400401012	010	LXD	6)+4,4		
00006	-112562256360	00	RESET	BCD	1RESET	00076	-053400200761	010	35A	LXD	2)+2,2	
00007	-074362500260	00	PLSQ2	BCD	1PLSQ2	00077	+050000277462	010	36A	CLA	NT+1,2	
00010	-046763256263	00	MXTEST	BCD	1MXTEST	00100	+060100201305	011		STO	KARD+1,2	
00011	-074362500460	00	PLSQ4	BCD	1PLSQ4	00101	+100001200102	010	36A1	TXI	**1,2,1	
00012	-075125623124	00	PRESID	BCD	1PRESID	00102	-300050200077	010	36A2	TXL	36A,2,40	
00013	-233144256060	00	TIME	BCD	1TIME	00103	+050000077455	010	37A	CLA	NRESET	
00014	-224725236060	00	SPEC	BCD	1SPEC	00104	+056000077457	010		LQD	NFIRST	
00015	-346243463460	00	(SLO)	BCD	1(SLO)	00105	+004000000107	010		TLQ	**2	
00016	+256731636060	00	EXIT	BCD	1EXIT	00106	+050000077457	010		CLA	NFIRST	
00017	+050000000002	00	\$\$		CLA	2	00107	+056000000761	010	LQD	2)+2	
00020	+060100001013	010			STO	6)+5	00110	+004000000112	010	TLQ	**2	
00021	+050000000000	010			CLA	(FPT)	00111	+050000000761	010	CLA	2)+2	
00022	+060100000010	00			STO	8	00112	+060100077455	010	STO	NRESET	
00023	+060000077462	010			STZ	4)-205	00113	+050000000757	010	38A	CLA	2)
00024	-050000000772	010	22A		CAL	3)	00114	+060100046676	010		STO	IERR
00025	+060200046535	010			SLW	BLANK	00115	-050000000763	010	39A	CAL	2)+4
00026	+050000000757	010	23A		CLA	2)	00116	-063400401012	010		SXD	6)+4,4
00027	+060100046532	010			STO	NSAVE	00117	+007400400001	010		TSX	(TSH),4
00030	+050000000757	010	24A		CLA	2)	00120	+000000001221	010		PZE	8)S5
00031	+060100046531	010			STO	NVSAV	00121	-053400401012	010		LXD	6)+4,4
00032	+050000000760	010	25A		CLA	2)+1	00122	-053400200771	010	40A	LXD	2)+10,2
00033	+060100046745	010			STO	NCT	00123	-100000000000	00	41A	STR	
00034	-053400100766	010	26A		LXD	2)+7,1	00124	-060000246646	010		STO	TIT+1,2
00035	-075400100000	00			PXD	0,1	00125	+100001200126	010	41A1	TXI	**1,2,1
00036	+060100001234	010			STO	I	00126	-300110200123	010	41A2	TXL	41A,2,72
00037	+050000146747	010	27A		CLA	NCT+2,1	00127	-063400401012	010	43A	SXD	6)+4,4
00040	+040000001234	010			ADD	I	00130	+007400400003	010		TSX	(RTN),4
00041	+040000000761	010			ADD	2)+2	00131	-053400401012	010		LXD	6)+4,4
00042	+060100146746	010			STO	NCT+1,1	00132	-050000000764	010	44A	CAL	2)+5
00043	+100001100044	010	27A1		TXI	**1,1,1	00133	-063400401012	010		SXD	6)+4,4
00044	-063400101234	010			SXD	I,1	00134	+007400400004	010		TSX	(STH),4
00045	-300020100037	010	27A2		TXL	27A,1,16	00135	+000000001156	010		PZE	8)SA
00046	+050000000757	010	28A		CLA	2)	00136	-053400401012	010		LXD	6)+4,4
00047	+060100046725	010			STO	NCOE	00137	-053400200771	010	45A	LXD	2)+10,2
00050	-053400100766	010	29A		LXD	2)+7,1	00140	+056000246646	010	46A	LQD	TIT+1,2
00051	+056000000762	010	30A		LQD	2)+3	00141	-100000000000	00		STR	
00052	+020000146747	010			MPY	NCT+2,1	00142	+100001200143	010	46A1	TXI	**1,2,1
00053	+076700000021	00			ALS	17	00143	-300110200140	010	46A2	TXL	46A,2,72
00054	+040000146727	010			ADD	NCOE+2,1	00144	-063400401012	010	48A	SXD	6)+4,4
00055	+060100146726	010			STO	NCOE+1,1	00145	+007400400005	010		TSX	(FIL),4
00056	+100001100057	010	30A1		TXI	**1,1,1	00146	-053400401012	010		LXD	6)+4,4
00057	-300011100051	010	30A2		TXL	30A,1,9	00147	+050000077456	010	49A	CLA	NLAST
00060	-053400401230	010	D)405		LXD	C)G2,4	00150	+010000000152	010	49A1	TZE	50A
00061	+050000077452	010	31A		CLA	NT-7	00151	+012000000155	010		TPL	52A
00062	+060100065653	010			STO	MTEMP	00152	+050000000762	010	50A	CLA	2)+3
00063	+050000077416	010	32A		CLA	0	00153	+060100077456	010		STO	NLAST
00064	+060100065652	010			STO	TEMP-1	00154	+002000000163	010	51A	TRA	53A
00065	-050000000763	010	33A		CAL	2)+4	00155	+056000077456	010	52A	LQD	NLAST
00066	-063400401012	010			SXD	6)+4,4	00156	+050000000762	010		CLA	2)+3
00067	+007400400001	010			TSX	(TSH),4	00157	+004000000161	010		TLQ	**2

MPLSQ

00334	-053400200761	010	81A	LXD 2)+2,2	00422	+060100046523	010	STO NV3
00335	+050000000764	010		CLA 2)+5	00423	+050000077454	010	101A CLA NT-5
00336	+062200000347	010		STD 84A2	00424	+010000000426	010	101A1 TZE 102A
00337	-053400100761	010		LXD 2)+2,1	00425	+012000000435	010	TPL 104A
00340	+050000077460	010		CLA NV	00426	-050000000764	010	102A CAL 2)+5
00341	+062200000355	010		STD 85A3	00427	-063400401012	010	SXD 6)+4,4
00342	+056000146662	010	82A	LDQ NVJ+1,1	00430	+007400400004	010	TSX (STH),4
00343	-100000000000	00		STR	00431	+000000001022	010	PZE 8)SV
			83A	BSS	00432	+007400400005	010	TSX (FIL),4
00344	+056000246646	010	84A	LDQ TIT+1,2	00433	-053400401012	010	LXD 6)+4,4
00345	-100000000000	00		STR	00434	+002000000445	010	103A TRA 106A
00346	+100001200347	010	84A1	TXI *+1,2,1	00435	-063400401012	010	104A SXD 6)+4,4
00347	-300006200344	010	84A2	TXL 84A,2,6	00436	+007400400007	010	TSX PLSQ2,4
00350	+200006200351	010	84A3	TIX *+1,2,6	00437	-053400401012	010	LXD 6)+4,4
			85A	BSS	00440	+050000046676	010	105A CLA IERR
00351	+100013200352	010	85A1	TXI *+1,2,11	00441	+040000000761	010	ADD 2)+2
00352	-063400200347	010		SXD 84A2,2	00442	+010000000565	010	105A1 TZE 130A
00353	+200005200354	010		TIX *+1,2,5	00443	+012000000445	010	TPL 106A
00354	+100001100355	010		TXI *+1,1,1	00444	+002000000557	010	TRA 129A
00355	-300000100342	010	85A3	TXL 82A,1	00445	+050000077442	010	106A CLA NT-15
00356	-063400401012	010	87A	SXD 6)+4,4	00446	+010000000465	010	106A1 TZE 111A
00357	+007400400005	010		TSX (FIL),4	00447	+012000000451	010	TPL 107A
00360	-053400401012	010		LXD 6)+4,4	00450	+002000000465	010	TRA 111A
00361	+050000077416	010	88A	CLA Q	00451	-063400401012	010	107A SXD 6)+4,4
00362	+010000000364	010	88A1	TZE 89A	00452	+007400400010	010	TSX MXTEST,4
00363	+012000000366	010		TPL 90A	00453	-053400401012	010	LXD 6)+4,4
00364	+050000000773	010	89A	CLA 3)+1	00454	-050000000776	010	108A CAL 3)+4
00365	+060100077416	010		STO Q	00455	+060200046675	010	SLW TITL
00366	+050000077424	010	90A	CLA NT-29	00456	-050000000777	010	109A CAL 3)+5
00367	+010000000371	010	90A1	TZE 91A	00457	+060200046674	010	SLW TITL-1
00370	+012000000373	010		TPL 92A	00460	+050000046676	010	110A CLA IERR
00371	+050000000765	010	91A	CLA 2)+6	00461	+040000000761	010	ADD 2)+2
00372	+060100077424	010		STO NT-29	00462	+010000000565	010	110A1 TZE 130A
00373	+050000077402	010	92A	CLA TEST-7	00463	+012000000465	010	TPL 111A
00374	+010000000376	010	92A1	TZE 93A	00464	+002000000557	010	TRA 129A
00375	+012000000400	010		TPL 94A	00465	+050000077441	010	111A CLA NT-16
00376	+050000000774	010	93A	CLA 3)+2	00466	+010000000565	010	111A1 TZE 130A
00377	+060100077402	010		STO TEST-7	00467	+012000000471	010	TPL 112A
00400	-053400200761	010	94A	LXD 2)+2,2	00470	+002000000565	010	TRA 130A
00401	+050000046535	010	95A	CLA BLANK	00471	-063400401012	010	112A SXD 6)+4,4
00402	+060100246715	010		STO ZNAME+1,2	00472	+007400400011	010	TSX PLSQ4,4
00403	+100001200404	010	95A1	TXI *+1,2,1	00473	-053400401012	010	LXD 6)+4,4
00404	-300014200401	010	95A2	TXL 95A,2,12	00474	-050000001000	010	113A CAL 3)+6
00405	-053400200761	010	96A	LXD 2)+2,2	00475	+060200046673	010	SLW TITL-2
00406	+050000000775	010	97A	CLA 3)+3	00476	-050000001001	010	114A CAL 3)+7
00407	+060100246676	010		STO TITL+1,2	00477	+060200046672	010	SLW TITL-3
00410	+100001200411	010	97A1	TXI *+1,2,1	00500	+050000046676	010	115A CLA IERR
00411	-300010200406	010	97A2	TXL 97A,2,8	00501	+040000000761	010	ADD 2)+2
00412	+050000077456	010	98A	CLA NLAST	00502	+010000000565	010	115A1 TZE 130A
00413	+040000077456	010		ADD NLAST	00503	+012000000505	010	TPL 116A
00414	+060100046526	010		STO NLST	00504	+002000000557	010	TRA 129A
00415	+050000077460	010	99A	CLA NV	00505	+050000077440	010	116A CLA NT-17
00416	+040000000766	010		ADD 2)+7	00506	+010000000520	010	116A1 TZE 120A
00417	+060100046524	010		STO NV2	00507	+012000000511	010	TPL 117A
00420	+050000046524	010	100A	CLA NV2	00510	+002000000520	010	TRA 120A
00421	+040000000761	010		ADD 2)+2	00511	-063400401012	010	117A SXD 6)+4,4

MPLSQ

00512	+007400400012	010	TSX	PRESID,4	00602	+056000001301	010	LDQ	KARD-3		
00513	-053400401012	010	LXD	6)+4,4	00603	-100000000000	00	STR			
00514	-050000001002	010	118A	CAL 3)+8	00604	-063400401012	010	SXD	6)+4,4		
00515	+060200046671	010	SLW	TITL-4	00605	+007400400015	010	TSX	(SLO),4		
00516	-050000001003	010	119A	CAL 3)+9	00606	+000000046715	010	PZE	NAME+1		
00517	+060200046670	010	SLW	TITL-5	00607	+000000000014	00	PZE	12		
00520	+050000077437	010	120A	CLA	NT-18	00610	+007400400005	010	TSX	(FIL),4	
00521	+010000000565	010	120A1	TZE	130A	00611	-053400401012	010	LXD	6)+4,4	
00522	+012000000524	010	TPL	121A	00612	+050000001275	010	132A	CLA	KARD-7	
00523	+002000000565	010	TRA	130A	00613	+010000000633	010	132A1	TZE	136A	
00524	+050000077425	010	121A	CLA	NT-28	00614	+012000000616	010	TPL	133A	
00525	+010000000535	010	121A1	TZE	123A	00615	+002000000633	010	TRA	136A	
00526	+012000000530	010	TPL	122A	00616	-050000000764	010	133A	CAL	2)+5	
00527	+002000000535	010	TRA	123A	00617	-063400401012	010		SXD	6)+4,4	
00530	+050000000757	010	122A	CLA	2)	00620	+007400400004	010	TSX	(STH),4	
00531	-063400401012	010	SXD	6)+4,4	00621	+000000001041	010		PZE	8)SJ	
00532	+007400400013	010	TSX	TIME,4	00622	-053400401012	010		LXD	6)+4,4	
00533	-053400401012	010	LXD	6)+4,4	00623	+056000001275	010	134A	LDQ	KARD-7	
00534	+060100046646	010	STO	TIM-3	00624	-100000000000	00		STR		
00535	-063400401012	010	123A	SXD	6)+4,4	00625	-063400401012	010		SXD	6)+4,4
00536	+007400400014	010	TSX	SPEC,4	00626	+007400400005	010		TSX	(FIL),4	
00537	-053400401012	010	LXD	6)+4,4	00627	-053400401012	010		LXD	6)+4,4	
00540	+050000077425	010	124A	CLA	NT-28	00630	+050000077452	010	135A	CLA	NT-7
00541	+010000000565	010	124A1	TZE	130A	00631	+010000000633	010	135A1	TZE	136A
00542	+012000000544	010	TPL	125A	00632	+012000000641	010		TPL	137A	
00543	+002000000565	010	TRA	130A	00633	-050000000764	010	136A	CAL	2)+5	
00544	+050000000757	010	125A	CLA	2)	00634	-063400401012	010		SXD	6)+4,4
00545	-063400401012	010	SXD	6)+4,4	00635	+007400400004	010		TSX	(STH),4	
00546	+007400400013	010	TSX	TIME,4	00636	+000000001115	010		PZE	8)SG	
00547	-053400401012	010	LXD	6)+4,4	00637	+007400400005	010		TSX	(FIL),4	
00550	+030200046646	010	FSB	TIM-3	00640	-053400401012	010		LXD	6)+4,4	
00551	+060100046646	010	STO	TIM-3	00641	+050000077425	010	137A	CLA	NT-28	
00552	-050000001004	010	126A	CAL	3)+10	00642	+010000000700	010	137A1	TZE	144A
00553	+060200046667	010	SLW	TITL-6	00643	+012000000645	010		TPL	138A	
00554	-050000001005	010	127A	CAL	3)+11	00644	+002000000700	010		TRA	144A
00555	+060200046666	010	SLW	TITL-7	00645	-050000000764	010	138A	CAL	2)+5	
00556	+002000000565	010	128A	TRA	130A	00646	-063400401012	010		SXD	6)+4,4
00557	-050000000764	010	129A	CAL	2)+5	00647	+007400400004	010		TSX	(STH),4
00560	-063400401012	010	SXD	6)+4,4	00650	+000000001032	010		PZE	8)SO	
00561	+007400400004	010	TSX	(STH),4	00651	+007400400005	010		TSX	(FIL),4	
00562	+000000001046	010	PZE	8)SI	00652	-053400401012	010		LXD	6)+4,4	
00563	+007400400005	010	TSX	(FIL),4	00653	-053400200766	010	139A	LXD	2)+7,2	
00564	-053400401012	010	LXD	6)+4,4	00654	-053400100761	010		LXD	2)+2,1	
00565	-050000000764	010	130A	CAL	2)+5	00655	+050000246676	010	140A	CLA	TITL+1,2
00566	-063400401012	010	SXD	6)+4,4	00656	+010000000675	010	140A1	TZE	143A	
00567	+007400400004	010	TSX	(STH),4	00657	-050000000764	010	141A	CAL	2)+5	
00570	+000000001152	010	PZE	8)SE	00660	-063400401012	010		SXD	6)+4,4	
00571	-053400401012	010	LXD	6)+4,4	00661	+007400400004	010		TSX	(STH),4	
00572	+056000077461	010	131A	LDQ	NODECK	00662	+000000001025	010		PZE	8)SP
00573	-100000000000	00	STR		00663	-053400401012	010		LXD	6)+4,4	
00574	+056000077457	010	LDQ	NFIRST	00664	+056000146652	010	142A	LDQ	TIM+1,1	
00575	-100000000000	00	STR		00665	-100000000000	00		STR		
00576	+056000077456	010	LDQ	NLAST	00666	+056000246677	010		LDQ	TITL+2,2	
00577	-100000000000	00	STR		00667	-100000000000	00		STR		
00600	+056000001302	010	LDQ	KARD-2	00670	+056000246676	010		LDQ	TITL+1,2	
00601	-100000000000	00	STR		00671	-100000000000	00		STR		

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00672	-063400401012	010		SXD 6)+4,4	00761	+000001000000	00	OCT	+000001000000	
00673	+007400400005	010		TSX (FIL),4	00762	+000001000000	00	OCT	+000001000000	
00674	-053400401012	010		LXD 6)+4,4	00763	+000005000000	00	OCT	+000005000000	
			143A	BSS	00764	+000006000000	00	OCT	+000006000000	
00675	+100002200676	010	143A1	TXI **1,2,2	00765	+000011000000	00	OCT	+000011000000	
00676	+100001100677	010		TXI **1,1,1	00766	+000002000000	00	OCT	+000002000000	
00677	-300004100655	010	143A2	TXL 140A,1,4	00767	+000007000000	00	OCT	+000007000000	
00700	-050000000764	010	144A	CAL 2)+5	00770	+000013000000	00	OCT	+000013000000	
00701	-063400401012	010		SXD 6)+4,4	00771	+000006100000	00	OCT	+000006100000	
00702	+007400400004	010		TSX (STH),4	00772	-206060606060	00	31)	OCT	-206060606060
00703	+000000001110	010		PZE 8)SH	00773	+201400000000	00	OCT	+201400000000	
00704	-053400401012	010		LXD 6)+4,4	00774	+221606474000	00	OCT	+221606474000	
00705	-053400200761	010	145A	LXD 2)+2,2	00775	+000000000000	00	OCT	+000000000000	
00706	-075400200000	00		PXD 0,2	00776	+242563337325	00	OCT	+242563337325	
00707	+060100001234	010		STO I	00777	+312725456533	00	OCT	+312725456533	
00710	+056000001234	010	146A	LDQ I	01000	+234625262631	00	OCT	+234625262631	
00711	-100000000000	00		STR	01001	+233125456362	00	OCT	+233125456362	
00712	+100001200713	010	146A1	TXI **1,2,1	01002	-112562312464	00	OCT	-112562312464	
00713	-063400201234	010		SXD I,2	01003	+214362606060	00	OCT	+214362606060	
00714	-300010200710	010	146A2	TXL 146A,2,8	01004	-224725233360	00	OCT	-224725233360	
00715	-063400401012	010	148A	SXD 6)+4,4	01005	+234644473360	00	OCT	+234644473360	
00716	+007400400015	010		TSX (SLD),4	01006	+233000000000	00	6)	OCT	+233000000000
00717	+000000001305	011		PZE KARD+1	01007	+000000377777	00	OCT	+000000377777	
00720	+000000000050	00		PZE 40	01010	+000000000000	00	OCT	+000000000000	
00721	+007400400015	010		TSX (SLD),4	01011	+000001000000	00	OCT	+000001000000	
00722	+0000000077462	010		PZE NT+1	01012	+000000000000	00	OCT	+000000000000	
00723	+000000000060	00		PZE 48	01013	+000000000000	00	OCT	+000000000000	
00724	+007400400005	010		TSX (FIL),4	01014	-232562633460	00	BCD	1TEST)	
00725	-053400401012	010		LXD 6)+4,4	01015	-253146646260	00	BCD	1V10US	
00726	+050000046676	010	149A	CLA IERR	01016	+216260475125	00	BCD	1AS PRE	
00727	+040000000761	010		ADD 2)+2	01017	+216351316760	00	BCD	1ATRIX	
00730	+010000000061	010	149A1	TZE 31A	01020	+256064656044	00	BCD	1E UV M	
00731	+012000000061	010		TPL 31A	01021	+023000622144	00	BCD	12HOSAM	
00732	-063400401012	010	150A	SXD 6)+4,4	01022	-340130006103	00	8)SV	BCD 1(1H0/3	
00733	+007400400016	010		TSX EXIT,4	01023	+210634606060	00	BCD	1A6)	
00734	-053400401012	010		LXD 6)+4,4	01024	+330273026702	00	BCD	1.2,2X2	
00735	+050000000767	010	151A	CLA 2)+8	01025	-340130002607	00	8)SP	BCD 1(1H0F7	
00736	+060100001232	010		STO KD	01026	+256234606060	00	BCD	1ES)	
00737	+002000000742	010	152A	TRA 154A	01027	-064560633144	00	BCD	1DN TIM	
00740	+050000000770	010	153A	CLA 2)+9	01030	-076463216331	00	BCD	1PUTATI	
00741	+060100001232	010		STO KD	01031	+103000234644	00	BCD	18HOCOM	
00742	+050200000766	010	154A	CLS 2)+7	01032	-340130006101	00	8)SO	BCD 1(1H0/1	
00743	+060100046676	010		STO IERR	01033	+346060606060	00	BCD	1)	
00744	-050000000764	010	155A	CAL 2)+5	01034	-242562632524	00	BCD	1UESTED	
00745	-063400401012	010		SXD 6)+4,4	01035	+003060512550	00	BCD	1QH REQ	
00746	+007400400004	010		TSX (STH),4	01036	+246031027301	00	BCD	1D 12,1	
00747	+000000001174	010		PZE 8)S9	01037	-204425633046	00	BCD	1 METHO	
00750	-053400401012	010		LXD 6)+4,4	01040	+232143314527	00	BCD	1CALING	
00751	+056000001232	010	156A	LDQ KD	01041	-340105300062	00	8)SJ	BCD 1(15H0S	
00752	-100000000000	00		STR	01042	+346060606060	00	BCD	1)	
00753	-063400401012	010		SXD 6)+4,4	01043	-234647472524	00	BCD	1TOPPED	
00754	+007400400005	010		TSX (FIL),4	01044	+275121446062	00	BCD	1GRAM S	
00755	-053400401012	010		LXD 6)+4,4	01045	+063000475146	00	BCD	16HOPRO	
00756	+002000000700	010	157A	TRA 144A	01046	-340130006101	00	8)SI	BCD 1(1H0/1	
00757	+000000000000	00	2)	OCT	+000000000000	01047	+023460606060	00	BCD	12)
00760	+000003000000	00		OCT	+000003000000	01050	-202321512460	00	BCD	1 CARD

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01051	-226026514644	00	BCD 1S FROM	01141	+275125256260	00	BCD 1GREES
01052	+306521436425	00	BCD 1HVALUE	01142	+264651602425	00	BCD 1FOR DE
01053	+007310670110	00	BCD 10,8X18	01143	+256262252460	00	BCD 1ESSED
01054	-330047261133	00	BCD 1,0PF9.	01144	-206047514623	00	BCD 1 PRDC
01055	-070725113302	00	BCD 1P7E9.2	01145	-210205300060	00	BCD 1/25HO
01056	-064561046701	00	BCD 10N/4X1	01146	+242523422107	00	BCD 1DECKA7
01057	-272523646331	00	BCD 1XECUT I	01147	-226026465160	00	BCD 1S FOR
01060	+266325516025	00	BCD 1FTER E	01150	-112562644363	00	BCD 1RESULT
01061	+106701053021	00	BCD 18X15HA	01151	-052460462660	00	BCD 1ND OF
01062	+210673210473	00	BCD 1A6, A4,	01152	-340204300125	00	BCD 1(24H1E
01063	+260533037303	00	BCD 1F5.3,3	01153	+022106343460	00	BCD 12A61)
01064	+017305310273	00	BCD 11,512,	01154	-217401300001	00	BCD 1/(1H01
01065	+210673021131	00	BCD 1A6,291	01155	-340130006134	00	BCD 1(1H0/)
01066	+252124610467	00	BCD 1EAD/4X	01156	-340130016103	00	BCD 1(1H1/3
01067	-036425626051	00	BCD 1LUES R	01157	+252434606060	00	BCD 1ED)
01070	-200173606521	00	BCD 1 I, VA	01160	-206263464747	00	BCD 1 STOPP
01071	+113023215124	00	BCD 19HCARD	01161	-114627512144	00	BCD 1ROGRAM
01072	+210473106701	00	BCD 1A4,8X1	01162	-210106300047	00	BCD 1/16HOP
01073	+037303210673	00	BCD 13,3A6,	01163	-036023215124	00	BCD 1L CARD
01074	+310273260533	00	BCD 112, F5,	01164	+234645635146	00	BCD 1CONTRO
01075	+021131017305	00	BCD 12911,5	01165	+263151626360	00	BCD 1FIRST
01076	-210467210673	00	BCD 1/4XA6,	01166	+023060462660	00	BCD 12H OF
01077	+066010600034	00	BCD 16 8 0)	01167	-044531037302	00	BCD 1MNI3,2
01100	+306002600460	00	BCD 1H 2 4	01170	-056023464364	00	BCD 1N COLU
01101	+007307740100	00	BCD 10,7(110	01171	+214364256031	00	BCD 1ALUE I
01102	+053006601060	00	BCD 15H6 8	01172	+252721436065	00	BCD 1EGAL V
01103	+310100611167	00	BCD 1110/9X	01173	+043000314343	00	BCD 14H0ILL
01104	+300023464310	00	BCD 1HOCOL8	01174	-340130006102	00	BCD 1(1H0/2
01105	+215124626104	00	BCD 1ARD5/4	01175	+212243256234	00	BCD 1ABLES)
01106	-235146436023	00	BCD 1TROL C	01176	-236065215131	00	BCD 1T VARI
01107	+043000234645	00	BCD 14HOCON	01177	-072545242545	00	BCD 1PENDEN
01110	-340130006101	00	BCD 1(1H0/1	01200	+020030002425	00	BCD 120MODE
01111	+216351316734	00	BCD 1ATRIX)	01201	+246101300061	00	BCD 10/1H0/
01112	+266064656044	00	BCD 1F UV M	01202	-106425626325	00	BCD 1QUESTE
01113	-033145276046	00	BCD 1LING 0	01203	+010030605125	00	BCD 110M RE
01114	-054660622321	00	BCD 1NO SCA	01204	-242730310273	00	BCD 1UGH12,
01115	-346102043000	00	BCD 1(1/24HO	01205	+306063305146	00	BCD 1H THRO
01116	+003434606060	00	BCD 10))	01206	+256231027310	00	BCD 1ES12,8
01117	+211173032101	00	BCD 1A9,3A1	01207	-202425275125	00	BCD 1 DEGRE
01120	+246174013000	00	BCD 10/(11H0	01210	-330100307360	00	BCD 1,10H,
01121	-202321434325	00	BCD 1 CALLE	01211	-042225512107	00	BCD 1MBERA7
01122	-246331452562	00	BCD 1UTINES	01212	+252342604564	00	BCD 1ECK NU
01123	-206264225146	00	BCD 1 SUBRO	01213	-340102300024	00	BCD 1(12HOD
01124	-042163513167	00	BCD 1MATRIX	01214	+026706210634	00	BCD 12X6A6)
01125	-206002063000	00	BCD 1 26HO	01215	+013067310273	00	BCD 11HX12,
01126	+013000616060	00	BCD 11H0/	01216	-340130000367	00	BCD 1(1H03X
01127	+256263252461	00	BCD 1ESTED/	01217	+063460606060	00	BCD 16)
01130	+306051255064	00	BCD 1H REQU	01220	-343102730621	00	BCD 1(12,6A
01131	+303102730100	00	BCD 1H12,10	01221	-340102210634	00	BCD 1(12A6)
01132	-233051466427	00	BCD 1THROUG	01222	-332611330034	00	BCD 1,F9.0)
01133	+310273103060	00	BCD 112,8H	01223	-210725113302	00	BCD 1/7E9.2
01134	+252751252562	00	BCD 1EGREES	01224	+032106732104	00	BCD 13A6,A4
01135	+300060606024	00	BCD 1HO 0	01225	-332605330373	00	BCD 1,F5.3,
01136	+303102610101	00	BCD 1H12/11	01226	+310173053102	00	BCD 111,512
01137	-233051466427	00	BCD 1THROUG	01227	-342106730211	00	BCD 1(A6,29
01140	+310273103060	00	BCD 112,8H				

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SUBROUTINE PLSQ2
SUBROUTINE PLSQ2
DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8,8),PLSQ2 1
18),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12) PLSQ2 2
D DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312) PLSQ2 3
1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1),PLSQ2 4
2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),MSAV(45),SCA(10),PLSQ2 5
1MSCA(10) PLSQ2 6
COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT, PLSQ2 7
1NCOE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,NSAVE, PLSQ2 8
2NNSAV,MSV,MSV2,NLST,NC2,NV2,NV3 PLSQ2 9
EQUIVALENCE (NODECK,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLAST,NT(4)) PLSQ2 10
1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP,PLSQ2 11
2,MTEMP),(C,MC),(B,MB),(Y,MY),(X,MX),(XX,MXX),(DET,MDET),(XNORM,NORPLSQ2 12
3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV) PLSQ2 13
DIMENSION ADD(10),SUB(10),NTR(10),FMT(12),OFMT(11) PLSQ2 14
COMMON ADD,SUB,NTR,FMT,XLBL,OFMT PLSQ2 15
EQUIVALENCE (SC1,MSC1),(SC2,MSC2) PLSQ2 16
B SC1=201000000000 PLSQ2 17
B SC2=001000000000 PLSQ2 18
NV=NV PLSQ2 19
NLA=NLAST PLSQ2 20
IERR=0 PLSQ2 21
IER=0 PLSQ2 22
NSAVE=NLAST PLSQ2 23
NNSAV=NV PLSQ2 24
NNT=1 PLSQ2 25
ASSIGN 215 TO IJK PLSQ2 26
ASSIGN 637 TO LLT PLSQ2 27
CALL MOD(FMT) PLSQ2 28
IF (NT(13)) 50,50,55 PLSQ2 29
50 NT13=1 PLSQ2 30
GO TO 60 PLSQ2 31
55 NT13=2 PLSQ2 32
READ INPUT TAPE 5,920,XLBL,OFMT PLSQ2 33
60 IF (NT(8)-1) 72,77,81 PLSQ2 34
72 NT8=1 PLSQ2 35
GO TO 78 PLSQ2 36
77 READ INPUT TAPE 5,907,(SCA(J),J=1,NV2) PLSQ2 37
NT8=2 PLSQ2 38
DO 76 J=1,NV2 PLSQ2 39
IF (SCA(J)) 74,75,76 PLSQ2 40
74 SCA(J)=ABS(F(SCA(J))) PLSQ2 41
GO TO 76 PLSQ2 42
75 SCA(J)=1. PLSQ2 43
76 CONTINUE PLSQ2 44
GO TO 82 PLSQ2 45
78 IF (NT(18)) 79,79,82 PLSQ2 46
79 IF (NT(19)) 80,80,82 PLSQ2 47
80 IF (NT(11)-1) 85,87,86 PLSQ2 48
81 NT8=3 PLSQ2 49
82 REWIND 2 PLSQ2 50
NNT=2 PLSQ2 51
IF (NT(11)) 85,85,87 PLSQ2 52
85 ASSIGN 219 TO NT11 PLSQ2 53
GO TO 89 PLSQ2 54
86 REWIND 2 PLSQ2 55
PLSQ2 56

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SUBROUTINE PLSQ2
  NNT=2
87 ASSIGN 600 TO NT11
  ASSIGN 219 TO I1K
  WRITE OUTPUT TAPE 6, 904
  LINE=5
  CALL WRT2
89 NC=NCT(NLAST)
  NC2=NCT(NLST)
  M=NC
  N=0
D   B(2)=0.
D   B(3)=0.
  DO 90 I=1,NC2
D 90 A(I)=0.
  DO 95 J=1,NV
D   SSUM(J)=0.
  DO 95 I=1,NC
D 95 Y(I,J)=0.
  DO 100 J=1,NV2
  X(J+12)=0.
100 ADD(J)=0.
  IF (NT(7)) 115,115,120
115 ASSIGN 160 TO NT7
  GO TO 125
120 ASSIGN 155 TO NT7
  READ INPUT TAPE 5,909,(NTR(J),J=1,NV2)
  SENSE LIGHT 1
  CALL TRANS
125 IF (NT(20)) 126,126,128
126 ASSIGN 134 TO NT20
  GO TO 215
128 ASSIGN 131 TO NT20
  LINE=LINE+4
  READ INPUT TAPE 5,907,(SUB(J),J=1,NV2)
  GO TO 215
130 N=N+1
  GO TO NT11,(219,600)
219 GO TO NT20,(131,134)
131 DO 132 J=1,NV2
132 X(J+1)=X(J+1)-SUB(J)
134 GO TO NT7,(155,160)
155 CALL TRANS
  IF (IERR+1) 395,395,160
160 GO TO (166,165),NNT
165 WRITE TAPE 2,(X(J),J=1,NV3)
166 GO TO (168,167),NT13
167 WRITE OUTPUT TAPE 7,CFMT,NODECK,(X(I),I=1,NV3),XLBL,N
168 GO TO (410,215,170),NT8
170 DO 172 J=1,NV2
172 ADD(J)=ABS(X(J+1))+ADD(J)
215 READ INPUT TAPE 5,FMT,(X(J),J=1,NV3)
  IF (MX(2)=MTEST(8)) 130,220,220
220 A(1)=N
  GO TO (11,12),NT13
  12 END FILE 7
  11 GO TO (240,221),NNT

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PLSQ2 57
PLSQ2 58
PLSQ2 59
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PLSQ2 96
PLSQ2 97
PLSQ2 98
PLSQ2 99
PLSQ2100
PLSQ2101
PLSQ2102
PLSQ2103
PLSQ2104
PLSQ2105
PLSQ2106
PLSQ2107
PLSQ2108
PLSQ2109
PLSQ2110
PLSQ2111
PLSQ2112

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SUBROUTINE PLSQ2

221 REWIND 2	PLSQ2113
IF (NT(11)-1)240,240,222	PLSQ2114
222 IF (NT(7)) 223,223,225	PLSQ2115
223 IF (NT(20)) 240,240,226	PLSQ2116
225 WRITE OUTPUT TAPE 6,906	PLSQ2117
CALL WRT1	PLSQ2118
ASSIGN 636 TO LLT	PLSQ2119
IF (NT(20)) 230,230,227	PLSQ2120
226 WRITE OUTPUT TAPE 6,904	PLSQ2121
CALL WRT2	PLSQ2122
227 WRITE OUTPUT TAPE 6,916,(SUB(J),J=1,NV2)	PLSQ2123
WRITE OUTPUT TAPE 6,917	PLSQ2124
230 LINE=5	PLSQ2125
ASSIGN 235 TO IIK	PLSQ2126
DO 235 K=1,N	PLSQ2127
READ TAPE 2,(X(I),I=1,NV3)	PLSQ2128
GO TO 600	PLSQ2129
235 CONTINUE	PLSQ2130
REWIND 2	PLSQ2131
240 IF (N=NCT(NLAST)) 245,245,260	PLSQ2132
245 NLAST=NLAST-1	PLSQ2133
IER=-1	PLSQ2134
CALL RESET(L)	PLSQ2135
GO TO (455,240),L	PLSQ2136
260 NSAVE=NLAST	PLSQ2137
NLST=NLAST*NLAST	PLSQ2138
IF (NT(8)) 300,300,261	PLSQ2139
261 DO 30 J=1,NV2	PLSQ2140
GO TO (30,10,5),NT8	PLSQ2141
5 SCA(J)=(ADD(J)*Q)/A(1)	PLSQ2142
B 10 SCA(J)=SCA(J)*377000000000	PLSQ2143
MSCA(J)=MSCA(J)+MSC1	PLSQ2144
IF (2=NT(8)) 20,30,30	PLSQ2145
20 MSCA(J)=MSCA(J)+MSC2	PLSQ2146
30 CONTINUE	PLSQ2147
IF (MSCA(1)) 263,31,263	PLSQ2148
31 IF (MSCA(2)) 263,270,263	PLSQ2149
263 NT8=2	PLSQ2150
264 IF (NT(11)-3) 272,273,273	PLSQ2151
270 NT(8)=0	PLSQ2152
271 NT8=1	PLSQ2153
272 ASSIGN 290 TO IJK	PLSQ2154
GO TO 275	PLSQ2155
273 ASSIGN 600 TO IJK	PLSQ2156
ASSIGN 290 TO IIK	PLSQ2157
ASSIGN 637 TO LLT	PLSQ2158
WRITE OUTPUT TAPE 6,905	PLSQ2159
LINE=5	PLSQ2160
CALL WRT2	PLSQ2161
275 DO 290 K=1,N	PLSQ2162
READ TAPE 2,(X(J),J=1,NV3)	PLSQ2163
GO TO (410,400), NT8	PLSQ2164
290 CONTINUE	PLSQ2165
REWIND 2	PLSQ2166
GO TO (300,292),NT8	PLSQ2167
292 MSAB(1)=0	PLSQ2168

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SUBROUTINE PLSQ2
  MSAV(2)=MSCA(1)
  MSAV(3)=MSCA(2)
  DO 295 NDEG=2,NLAST
  NC=NCT(NDEG)
  L2=NC-1
  L1=NC-NDEG
  DO 294 L=L1,L2
  I=L-NDEG
294 MSAV(L)=MSAV(I)+MSAV(2)
295 MSAV(NC)=MSAV(I)+MSAV(3)
300 MSV=NCT(NLAST)
  MSV2=NCT(NLST)
  CALL MCOPY
  IF (1=NT(10)) 303,304,390
B 303 TITL(9)=606064656044
B TITL(10)=216351316760
  NDEG=NLST
  CALL MWRITE (B,NT(10))
  WRITE OUTPUT TAPE 6,911
  GO TO 305
304 WRITE OUTPUT TAPE 6,918,(A(I),I=1,MSV2)
305 CALL UYMAX
  IF (NT(8)) 307,307,306
306 CALL WRT3
307 MM=54/(MSV/7+5)
  LINE=MM
  DO 310 J=1,NV
  IF (MM=LINE) 308,308,309
308 WRITE OUTPUT TAPE 6,900,NLAST
  LINE=0
309 WRITE OUTPUT TAPE 6,901,NVJ(J),(Y(I,J),I=1,MSV)
  WRITE OUTPUT TAPE 6,903,SSUM(J)
310 LINE=LINE+1
390 IF (IER) 391,395,392
391 WRITE OUTPUT TAPE 6,915,N,NLAST
  GO TO 395
392 WRITE OUTPUT TAPE 6,919,NLAST
395 RETURN
400 DO 405 J=1,NV2
  MTEMP=XABSF(MX(J+1))-MSCA(J)
  IF (MTEMP) 402,402,403
402 MX(J+1)=0
  GO TO 405
403 MX(J+1)=XSIGNF(MTEMP,MX(J+1))
405 CONTINUE
410 IF ACCUMULATOR OVERFLOW 411,411
411 B(2)=X(2)
  B(3)=X(3)
D A(2)=A(2)+B(2)
D A(3)=A(3)+B(3)
  DO 420 NDEG=2,NLST
  NC=NCT(NDEG)
  L2=NC-1
  L1=NC-NDEG
  DO 415 L=L1,L2
  I=L-NDEG
  PLSQ2169
  PLSQ2170
  PLSQ2171
  PLSQ2172
  PLSQ2173
  PLSQ2174
  PLSQ2175
  PLSQ2176
  PLSQ2177
  PLSQ2178
  PLSQ2179
  PLSQ2180
  PLSQ2181
  PLSQ2182
  PLSQ2183
  PLSQ2184
  PLSQ2185
  PLSQ2186
  PLSQ2187
  PLSQ2188
  PLSQ2189
  PLSQ2190
  PLSQ2191
  PLSQ2192
  PLSQ2193
  PLSQ2194
  PLSQ2195
  PLSQ2196
  PLSQ2197
  PLSQ2198
  PLSQ2199
  PLSQ2200
  PLSQ2201
  PLSQ2202
  PLSQ2203
  PLSQ2204
  PLSQ2205
  PLSQ2206
  PLSQ2207
  PLSQ2208
  PLSQ2209
  PLSQ2210
  PLSQ2211
  PLSQ2212
  PLSQ2213
  PLSQ2214
  PLSQ2215
  PLSQ2216
  PLSQ2217
  PLSQ2218
  PLSQ2219
  PLSQ2220
  PLSQ2221
  PLSQ2222
  PLSQ2223
  PLSQ2224

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SUBROUTINE PLSQ2		
D	B(L)=B(I)*B(2)	PLSQ2225
D 415	A(L)=A(L)+B(L)	PLSQ2226
D	B(NC)=B(I)*B(3)	PLSQ2227
D 420	A(NC)=A(NC)+B(NC)	PLSQ2228
	IF ACCUMULATOR OVERFLOW 450,425	PLSQ2229
425	DO 440 J=1,NV	PLSQ2230
D	Y(I,J)=Y(I,J)+X(J+3)	PLSQ2231
D	SSUM(J)=SSUM(J)+X(J+3)*X(J+3)	PLSQ2232
	DO 440 I=2,M	PLSQ2233
D 440	Y(I,J)=Y(I,J)+X(J+3)*B(I)	PLSQ2234
	GO TO IJK,(215,290,600)	PLSQ2235
450	NLAST=NLAST+1	PLSQ2236
	IERR=1	PLSQ2237
	CALL RESET(L)	PLSQ2238
	GO TO (455,452),L	PLSQ2239
452	NLST=NLAST+NLAST	PLSQ2240
	M=NCT(NLAST)	PLSQ2241
	GO TO 425	PLSQ2242
455	NT(29)=0	PLSQ2243
	IERR=-2	PLSQ2244
	GO TO 390	PLSQ2245
600	LINE=LINE+1	PLSQ2246
	IF (56=LINE) 634,634,640	PLSQ2247
634	LINE=2	PLSQ2248
	WRITE OUTPUT TAPE 6, 911	PLSQ2249
	GO TO LLT,(636,637)	PLSQ2250
636	CALL WRT1	PLSQ2251
	GO TO 640	PLSQ2252
637	CALL WRT2	PLSQ2253
640	WRITE OUTPUT TAPE 6, 910, (X(I),I=1,NV3)	PLSQ2254
	GO TO IJK,(235,219,290)	PLSQ2255
900	FORMAT(7H1DEGREE12,3X25MS(X), S(UX), S(VX), . . . //)	PLSQ2256
901	FORMAT(/2H0X12,1P7E18,7/(4X7E18,7))	PLSQ2257
903	FORMAT(1H07X14HSUM OF SQUARES1PE18,7)	PLSQ2258
904	FORMAT(8H1D A T A//)	PLSQ2259
905	FORMAT(19H1DATA AFTER SCALING//)	PLSQ2260
906	FORMAT(17H1DATA TRANSFORMED//)	PLSQ2261
907	FORMAT(10F7,0)	PLSQ2262
909	FORMAT(10I1)	PLSQ2263
910	FORMAT(1XA4,10F12,3)	PLSQ2264
911	FORMAT(1H1)	PLSQ2265
915	FORMAT(1H0/1H /I6,33H POINTS, MAXIMUM DEGREE RESET TO12)	PLSQ2266
916	FORMAT(5H AXIS/6H SHIFTF11,3,9F12,3)	PLSQ2267
917	FORMAT(1H)	PLSQ2268
918	FORMAT(22H1ELEMENTS OF UV MATRIX/(4X1P7E18,7))	PLSQ2269
919	FORMAT(1H0/56H0OVERFLOW GENERATING UV MATRIX, MAXIMUM DEGREE RESE	PLSQ2270
	IT TO12)	PLSQ2271
920	FORMAT(12A6)	PLSQ2272
	END(1,1,0,0,0,0,0,1,0,0,0,0,0,0,0)	

SUBROUTINE PLSQ2

00000	-044624606060	00	MOD	BCD 1MOD	00070	-063400202353	010	SXD C)G5,2
00001	-346362303460	00	(TSH)	BCD 1(TSH)	00071	+050000002161	010	35A CLA 5)
00002	-346243313460	00	(SLI)	BCD 1(SLI)	00072	+060100002403	010	STO IJK
00003	-345163453460	00	(RTN)	BCD 1(RTN)	00073	+050000002162	010	36A CLA 5)+1
00004	-345166633460	00	(RWT)	BCD 1(RWT)	00074	+060100002376	010	STC LLT
00005	-346263303460	00	(STH)	BCD 1(STH)	00075	-063400402231	010	37A SXD 6)+4,4
00006	-342631433460	00	(FIL)	BCD 1(FIL)	00076	+007400400000	010	38A TSX MOD,4
00007	-265163026060	00	WRT2	BCD 1WRT2	00077	+007400046464	010	TSX FMT
00010	-235121456260	00	TRANS	BCD 1TRANS	00100	-053400402231	010	LXD 6)+4,4
00011	-346263223460	00	(STB)	BCD 1(STB)	00101	+050000077445	010	39A CLA NT-12
00012	-346643513460	00	(WLR)	BCD 1(WLR)	00102	+010000000104	010	39A1 TZE 40A
00013	-342526633460	00	(EFT)	BCD 1(EFT)	00103	+012000000111	010	TPL 42A
00014	-265163016060	00	WRT1	BCD 1WRT1	00104	+050000002201	010	40A CLA 2)+1
00015	-346362223460	00	(TSB)	BCD 1(TSB)	00105	+060100002367	010	STC NT13
00016	-345143513460	00	(RLR)	BCD 1(RLR)	00106	-053400202367	010	LXD NT13,2
00017	-112562256360	00	RESET	BCD 1RESET	00107	-063400202354	010	SXD C)G6,2
00020	-042346477060	00	MCOPY	BCD 1MCOPY	00110	+002000000132	010	41A TRA 45A
00021	-046651316325	00	MWRITE	BCD 1MWRITE	00111	+050000002202	010	42A CLA 2)+2
00022	-246544216760	00	UVMAX	BCD 1UVMAX	00112	+060100002367	010	STC NT13
00023	-265163036060	00	WRT3	BCD 1WRT3	00113	-053400202367	010	LXD NT13,2
00024	-342426212434	00	(DFAD)	BCD 1(DFAD)	00114	-063400202354	010	SXD C)G6,2
00025	-342426444734	00	(DFMP)	BCD 1(DFMP)	00115	-050000002203	010	43A CAL 2)+3
00026	+000000000000	00	S	PZE	00116	-063400402231	010	SXD 6)+4,4
00027	+000000000000	00		PZE	00117	+007400400001	010	TSX (TSH),4
00030	+000000000000	00		PZE	00120	+000000002233	010	PZE 8)SO
00031	-074362500260	00		BCD 1PLSQ2	00121	-053400402231	010	LXD 6)+4,4
00032	-063400100026	010		SXD \$,1	00122	-100000000000	00	44A STR
00033	-063400200027	010		SXD \$,1,2	00123	-060000046450	010	STQ XLBL
00034	-063400400030	010		SXD \$,2,4	00124	-063400402231	010	SXD 6)+4,4
00035	+050000000002	00	1A	CLA 2	00125	+007400400002	010	TSX (SLI),4
00036	+060100002232	010		STC 6)+5	00126	+000000046450	010	PZE OFMT+1
00037	-053400446526	010		LXD NLT,4	00127	+000000000013	00	PZE 11
00040	-063400402351	010		SXD C)G3,4	00130	+007400400003	010	TSX (RTN),4
00041	-053400246700	010		LXD NC,2	00131	-053400402231	010	LXD 6)+4,4
00042	-063400202360	010		SXD C)GA,2	00132	+050000077452	010	45A CLA NT-7
00043	-050000002213	010	26A	CAL 3)	00133	+040200002201	010	SUB 2)+1
00044	+060200002406	010		SLW SC1	00134	+010000000143	010	45A1 TZE 48A
00045	-050000002214	010	27A	CAL 3)+1	00135	+012000000220	010	TPL 64A
00046	+060200002405	010		SLW SC2	00136	+050000002201	010	46A CLA 2)+1
00047	+050000077460	010	28A	CLA NV	00137	+060100002364	010	STC NT8
00050	+060100077460	010		STC NV	00140	-053400202364	010	LXD NT8,2
00051	+050000077456	010	29A	CLA NLAST	00141	-063400202355	010	SXD C)G7,2
00052	+060100077456	010		STC NLAST	00142	+002000000205	010	47A TRA 61A
00053	-053400177456	010		LXD NLAST,1	00143	-050000002203	010	48A CAL 2)+3
00054	-063400102350	010		SXD C)G2,1	00144	-063400402231	010	SXD 6)+4,4
00055	+050000002200	010	30A	CLA 2)	00145	+007400400001	010	TSX (TSH),4
00056	+060100046676	010		STC IERR	00146	+000000002304	010	PZE 8)SB
00057	+050000002200	010	31A	CLA 2)	00147	-053400402231	010	LXD 6)+4,4
00060	+060100046534	010		STC IER	00150	-053400202201	010	49A LXD 2)+1,2
00061	+050000077456	010	32A	CLA NLAST	00151	+050000046524	010	CLA NV2
00062	+060100046532	010		STC NSAVE	00152	+062200000156	010	STD 50A2
00063	+050000077460	010	33A	CLA NV	00153	-100000000000	00	50A STR
00064	+060100046531	010		STC NVSAV	00154	-060000247124	010	STQ SCA+1,2
00065	+050000002201	010	34A	CLA 2)+1	00155	+100001200156	010	50A1 TXI +,1,2,1
00066	+060100002372	010		STC NNT	00156	-300000200153	010	50A2 TXL 50A,2
00067	-053400202372	010		LXD NNT,2	00157	-063400402231	010	52A SXD 6)+4,4

SUBROUTINE PLSQ2

00160	+007400400003	010	TSX (RTN),4	00247	-053400402231	010	LXD 6)+4,4
00161	-053400402231	010	LXD 6)+4,4	00250	+050000002202	010	71A CLA 2)+2
00162	+050000002202	010	53A CLA 2)+2	00251	+060100002372	010	STC NNT
00163	+060100002364	010	STC NT8	00252	-053400202372	010	LXD NNT,2
00164	-053400202364	010	LXD NT8,2	00253	-063400202353	010	SXD C)G5,2
00165	-063400202355	010	SXD C)G7,2	00254	+002000000256	010	TRA 72A
00166	-053400202201	010	54A LXD 2)+1,2	00255	-053400202353	010	D120K LXD C)G5,2
00167	+050000046524	010	CLA NV2	00256	+050000002164	010	72A CLA 5)+3
00170	+062200000203	010	STD 59A2	00257	+060100002370	010	STO NT11
00171	+050000247124	010	55A CLA SCA+1,2	00260	+050000002165	010	73A CLA 5)+4
00172	+010000000200	010	55A1 TZE 58A	00261	+060100002404	010	STO I1K
00173	+012000000202	010	TPL 59A	00262	-050000002205	010	74A CAL 2)+5
00174	+050000247124	010	56A CLA SCA+1,2	00263	-063400402231	010	SXD 6)+4,4
00175	+076000000003	00	SSP	00264	+007400400005	010	TSX (STH),4
00176	+060100247124	010	STC SCA+1,2	00265	+000000002320	010	PZE 8)S8
00177	+002000000202	010	57A TRA 59A	00266	+007400400006	010	TSX (FIL),4
00200	+050000002215	010	58A CLA 3)+2	00267	-053400402231	010	LXD 6)+4,4
00201	+060100247124	010	STC SCA+1,2	00270	+050000002203	010	75A CLA 2)+3
			BSS	00271	+060100046533	010	STC LINE
00202	+100001200203	010	59A TXI *+1,2,1	00272	-063400402231	010	76A SXD 6)+4,4
00203	-300000200171	010	59A2 TXL 55A,2	00273	+007400400007	010	TSX WRT2,4
00204	+002000000224	010	60A TRA 65A	00274	-053400402231	010	LXD 6)+4,4
00205	+050000077440	010	61A CLA NT=17	00275	+050000146746	010	77A CLA NCT+1,1
00206	+010000000210	010	61A1 TZE 62A	00276	+060100046700	010	STC NC
00207	+012000000224	010	TPL 65A	00277	-053400146700	010	LXD NC,1
00210	+050000077437	010	62A CLA NT=18	00300	-063400102360	010	SXD C)G,1
00211	+010000000213	010	62A1 TZE 63A	00301	+050000446746	010	78A CLA NCT,1,4
00212	+012000000224	010	TPL 65A	00302	+060100046525	010	STC NC2
00213	+050000077447	010	63A CLA NT=10	00303	+050000046700	010	79A CLA NC
00214	+040200002201	010	SUB 2)+1	00304	+060100002373	010	STC M
00215	+010000000255	010	63A1 TZE D)20K	00305	+050000002200	010	80A CLA 2)
00216	+012000000244	010	TPL 70A	00306	+060100002371	010	STC N
00217	+002000000240	010	TRA D)20I	00307	+050000002217	010	81A CLA 3)+4
00220	+050000002204	010	64A CLA 2)+4	00310	+060100077777	010	STC 4)
00221	+060100002364	010	STC NT8	00311	+050000002216	010	CLA 3)+3
00222	-053400202364	010	LXD NT8,2	00312	+060100077776	010	STC 4)-1
00223	-063400202355	010	SXD C)G7,2	00313	+050000077777	010	CLA 4)
00224	-050000002202	010	65A CAL 2)+2	00314	+060100060550	010	STC B=1
00225	-063400402231	010	SXD 6)+4,4	00315	+050000077776	010	CLA 4)-1
00226	+007400400004	010	TSX (RWT),4	00316	+060100054577	010	STC B=2026
00227	-053400402231	010	LXD 6)+4,4	00317	+050000002221	010	82A CLA 3)+6
00230	+050000002202	010	66A CLA 2)+2	00320	+060100077777	010	STC 4)
00231	+060100002372	010	STC NNT	00321	+050000002220	010	CLA 3)+5
00232	-053400202372	010	LXD NNT,2	00322	+060100077776	010	STC 4)-1
00233	-063400202353	010	SXD C)G5,2	00323	+050000077777	010	CLA 4)
00234	+050000077447	010	67A CLA NT=10	00324	+060100060547	010	STC B=2
00235	+010000000241	010	67A1 TZE 68A	00325	+050000077776	010	CLA 4)-1
00236	+012000000256	010	TPL 72A	00326	+060100054576	010	STC B=2027
00237	+002000000241	010	TRA 68A	00327	-053400102201	010	83A LXD 2)+1,1
00240	-053400202353	010	D)20I LXD C)G5,2	00330	+050000046525	010	CLA NC2
00241	+050000002163	010	68A CLA 5)+2	00331	+062200000343	010	STD 84A2
00242	+060100002370	010	STC NT11	00332	+050000002217	010	84A CLA 3)+4
00243	+002000000275	010	69A TRA 77A	00333	+060100077777	010	STC 4)
00244	-050000002202	010	70A CAL 2)+2	00334	+050000002216	010	CLA 3)+3
00245	-063400402231	010	SXD 6)+4,4	00335	+060100077776	010	STC 4)-1
00246	+007400400004	010	TSX (RWT),4	00336	+050000077777	010	CLA 4)

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00337	+060100177402	010	STO A+1,1	00426	+060100002365	010	STO NT7
00340	+050000077776	010	CLA 4)-1	00427	+002000000447	010 94A	TRA 103A
00341	+060100172661	010	STO A=2384,1	00430	+050000002167	010 95A	CLA 5)+6
00342	+100001100343	010 84A1	TXI *+1,1,1	00431	+060100002365	010	STO NT7
00343	+300000100332	010 84A2	TXL 84A,1	00432	+050000002203	010 96A	CAL 2)+3
00344	+053400102201	010 85A	LXD 2)+1,1	00433	+007400400001	010	TSX (TSH),4
00345	+050000046700	010	CLA NC	00434	+000000002302	010	PZE 8)SD
00346	+062200000402	010	STD 88A2	00435	+053400402201	010 97A	LXD 2)+1,4
00347	+050000046700	010	CLA NC	00436	+050000046524	010	CLA NV2
00350	+040200002230	010	SUB 6)+3	00437	+062200000443	010	STD 98A2
00351	+062200000406	010	STD 88A6	00440	+100000000000	00 98A	STR
00352	+040000002212	010	ADD 2)+10	00441	+060000446477	010	STQ NTR+1,4
00353	+062200000404	010	STD 88A4	00442	+100001400443	010 98A1	TXI *+1,4,1
00354	+050000046700	010	CLA NC	00443	+300000400440	010 98A2	TXL 98A,4
00355	+062200000403	010	STD 88A3			100A	BSS
00356	+053400402201	010	LXD 2)+1,4	00444	+007400400003	010	TSX (RTN),4
00357	+050000077460	010	CLA NV	00445	+076000000141	00 101A	PSE 97
00360	+062200000410	010	STD 88A7			102A	BSS
00361	+050000002217	010 86A	CLA 3)+4	00446	+007400400010	010	TSX TRANS,4
00362	+060100077777	010	STC 4)	00447	+050000077436	010 103A	CLA NT=19
00363	+050000002216	010	CLA 3)+3	00450	+010000000452	010 103A1	TZE 104A
00364	+060100077776	010	STC 4)-1	00451	+012000000455	010	TPL 106A
00365	+050000077777	010	CLA 4)	00452	+050000002170	010 104A	CLA 5)+7
00366	+060100447244	010	STC SSUM+1,4	00453	+060100002366	010	STO NT20
00367	+050000077776	010	CLA 4)-1	00454	+002000000610	010 105A	TRA 138A
00370	+060100447234	010	STC SSUM=7,4	00455	+050000002171	010 106A	CLA 5)+8
		87A	BSS	00456	+060100002366	010	STO NT20
00371	+050000002217	010 88A	CLA 3)+4	00457	+050000046533	010 107A	CLA LINE
00372	+060100077777	010	STC 4)	00460	+040000002206	010	ADD 2)+6
00373	+050000002216	010	CLA 3)+3	00461	+060100046533	010	STO LINE
00374	+060100077776	010	STC 4)-1	00462	+050000002203	010 108A	CAL 2)+3
00375	+050000077777	010	CLA 4)	00463	+007400400001	010	TSX (TSH),4
00376	+060100150630	010	STC Y+1,1	00464	+000000002304	010	PZE 8)SB
00377	+050000077776	010	CLA 4)-1	00465	+053400402201	010 109A	LXD 2)+1,4
00400	+060100150060	010	STC Y=359,1	00466	+050000046524	010	CLA NV2
00401	+100001100402	010 88A1	TXI *+1,1,1	00467	+062200000473	010	STD 110A2
00402	+300000100371	010 88A2	TXL 88A,1	00470	+100000000000	00 110A	STR
00403	+200000100404	010 88A3	TXI *+1,1	00471	+060000446511	010	STQ SUB+1,4
00404	+100000100405	010 88A4	TXI *+1,1	00472	+100001400473	010 110A1	TXI *+1,4,1
00405	+063400100402	010	SXD 88A2,1	00473	+300000400470	010 110A2	TXL 110A,4
00406	+200000100407	010 88A6	TXI *+1,1			112A	BSS
00407	+100001400410	010	TXI *+1,4,1	00474	+007400400003	010	TSX (RTN),4
00410	+300000400361	010 88A7	TXL 86A,4	00475	+002000000610	010 113A	TRA 138A
00411	+053400402201	010 89A	LXD 2)+1,4	00476	+050000002371	010 114A	CLA N
00412	+050000046524	010	CLA NV2	00477	+040000002201	010	ADD 2)+1
00413	+062200000421	010	STD 91A2	00500	+060100002371	010	STO N
00414	+050000002216	010 90A	CLA 3)+3	00501	+002000002370	010 115A	TRA NT11
00415	+060100447274	010	STC X=11,4	00502	+002000002366	010 116A	TRA NT20
00416	+050000002216	010 91A	CLA 3)+3	00503	+053400102201	010 117A	LXD 2)+1,1
00417	+060100446523	010	STC ADD+1,4	00504	+050000046524	010	CLA NV2
00420	+100001400421	010 91A1	TXI *+1,4,1	00505	+062200000512	010	STD 118A2
00421	+300000400414	010 91A2	TXL 90A,4	00506	+050000147307	010 118A	CLA X,1
00422	+050000077453	010 92A	CLA NT=6	00507	+030200146511	010	FSB SUB+1,1
00423	+010000000425	010 92A1	TZE 93A	00510	+060100147307	010	STO X,1
00424	+012000000430	010	TPL 95A	00511	+100001100512	010 118A1	TXI *+1,1,1
00425	+050000002166	010 93A	CLA 5)+5	00512	+300000100506	010 118A2	TXL 118A,1

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00513	+002000002365	010	119A	TRA	NT7	00601	+076000000003	00	SSP
			120A	BSS		00602	+030000446523	010	FAD ADD+1,4
00514	+007400400010	010		TSX	TRANS,4	00603	+060100446523	010	STO ADD+1,4
00515	+050000046676	010	121A	CLA	IERR	00604	+100001400605	010	137A1 TXI *+1,4,1
00516	+040000002201	010		ADD	2)+1	00605	-300000400600	010	137A2 TXL 137A,4
00517	+010000001514	010	121A1	TZE	D)63R	00606	+002000000610	010	TRA 138A
00520	+012000000522	010		TPL	122A	00607	-053400202353	010	D)21Q LXD C)G5,2
00521	+002000001514	010		TRA	D)63R	00610	-050000002203	010	138A CAL 2)+3
00522	+002000200525	010	122A	TRA	122A+3,2	00611	+007400400001	010	TSX (TSH),4
00523	+002000000525	010		TRA	123A	00612	+000000046464	010	PZE FMT
00524	+002000000537	010		TRA	D)41I	00613	-053400402201	010	139A LXD 2)+1,4
00525	-050000002202	010	123A	CAL	2)+2	00614	+050000046523	010	CLA NV3
00526	+007400400011	010		TSX	(STB),4	00615	+062200000621	010	STD 140A2
00527	-053400402201	010	124A	LXD	2)+1,4	00616	-100000000000	00	140A STR
00530	+050000046523	010		CLA	NV3	00617	-060000447310	010	STQ X+1,4
00531	+062200000535	010		STD	125A2	00620	+100001400621	010	140A1 TXI *+1,4,1
00532	+056000447310	010	125A	LDD	X+1,4	00621	-300000400616	010	140A2 TXL 140A,4
00533	-100000000000	00		STR					142A BSS
00534	+100001400535	010	125A1	TXI	*+1,4,1	00622	+007400400003	010	TSX (RTN),4
00535	-300000400532	010	125A2	TXL	125A,4	00623	+050000047306	010	143A CLA MX-1
			127A	BSS		00624	+040200077402	010	SUB MTEST-7
00536	+007400400012	010		TSX	(WLR),4	00625	+010000000630	010	143A1 TZE 144A
00537	-053400402354	010	D)41I	LXD	C)G6,4	00626	+012000000630	010	TPL 144A
00540	+002000400543	010	128A	TRA	128A+3,4	00627	+002000000476	010	TRA 114A
00541	+002000000543	010		TRA	129A	00630	+050000002371	010	144A CLA N
00542	+002000000570	010		TRA	D)11M	00631	+076500000022	00	LRS 18
00543	-050000002207	010	129A	CAL	2)+7	00632	-050100002225	010	ORA 6)
00544	-063400402231	010		SXD	6)+4,4	00633	+030000002225	010	FAD 6)
00545	+007400400005	010		TSX	(STM),4	00634	+060100077401	010	STO A
00546	+000000046447	010		PZE	DFMT	00635	-053400402354	010	LXD C)G6,4
00547	-053400402231	010		LXD	6)+4,4	00636	+002000400641	010	145A TRA 145A+3,4
00550	+056000077461	010	130A	LDD	NDECK	00637	+002000000641	010	TRA 146A
00551	-100000000000	00		STR		00640	+002000000645	010	TRA 147A
00552	-053400102201	010	131A	LXD	2)+1,1	00641	-050000002207	010	146A CAL 2)+7
00553	+050000046523	010		CLA	NV3	00642	-063400402231	010	SXD 6)+4,4
00554	+062200000560	010		STD	132A2	00643	+007400400013	010	TSX (EFT),4
00555	+056000147310	010	132A	LDD	X+1,1	00644	-053400402231	010	LXD 6)+4,4
00556	-100000000000	00		STR		00645	+002000200650	010	147A TRA 147A+3,2
00557	+100001100560	010	132A1	TXI	*+1,1,1	00646	+002000000650	010	TRA 148A
00560	-300000100555	010	132A2	TXL	132A,1	00647	+002000000773	010	TRA D)62E
00561	+056000046450	010	134A	LDD	XLBL	00650	-050000002202	010	148A CAL 2)+2
00562	-100000000000	00		STR		00651	-063400402231	010	SXD 6)+4,4
00563	+056000002371	010		LDD	N	00652	+007400400004	010	TSX (RWT),4
00564	-100000000000	00		STR		00653	-053400402231	010	LXD 6)+4,4
00565	-063400402231	010		SXD	6)+4,4	00654	+050000077447	010	149A CLA NT-10
00566	+007400400006	010		TSX	(FIL),4	00655	+040200002201	010	SUB 2)+1
00567	-053400402231	010		LXD	6)+4,4	00656	+010000000773	010	149A1 TZE D)62E
00570	+053400102355	010	D)11M	LXD	C)G7,1	00657	+012000000661	010	TPL 150A
00571	+002000100575	010	135A	TRA	135A+4,1	00660	+002000000773	010	TRA D)62E
00572	+002000000575	010		TRA	136A	00661	+050000077453	010	150A CLA NT-6
00573	+002000000610	010		TRA	138A	00662	+010000000664	010	150A1 TZE 151A
00574	+002000001546	010		TRA	D)342	00663	+012000000670	010	TPL 152A
00575	-053400402201	010	136A	LXD	2)+1,4	00664	+050000077436	010	151A CLA NT-19
00576	+050000046524	010		CLA	NV2	00665	+010000000773	010	151A1 TZE D)62E
00577	+062200000605	010		STD	137A2	00666	+012000000705	010	TPL 156A
00600	+050000447307	010	137A	CLA	X,4	00667	+002000000773	010	TRA D)62E

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00670	-050000002205	010	152A	CAL 2)+5	00760	+100001400761	010	169A1	TXI *+1,4,1
00671	-063400402231	010		SXD 6)+4,4	00761	-300000400756	010	169A2	TXL 169A,4
00672	+007400400005	010		TSX (STM),4				171A	BSS
00673	+000000002310	010		PZE 8)SA	00762	+007400400016	010		TSX (RLR),4
00674	+007400400006	010		TSX (FIL),4	00763	-075400100000	00	172A	PXD 0,1
00675	+007400400014	010		TSX WRT1,4	00764	+060100002401	010		STC K
00676	-053400402231	010		LXD 6)+4,4	00765	+002000002124	010		TRA 312A
00677	+050000002172	010	154A	CLA 5)+9				173A	BSS
00700	+060100002376	010		STC LLT	00766	+100001100767	010	173A1	TXI *+1,1,1
00701	+050000077436	010	155A	CLA NT=19	00767	-063400102362	010		SXD C)200,1
00702	+010000000741	010	155A1	TZE 164A	00770	-300000100751	010	173A2	TXL 167A,1
00703	+012000000714	010		TPL 158A	00771	-050000002202	010	174A	CAL 2)+2
00704	+002000000741	010		TRA 164A	00772	+007400400004	010		TSX (RWT),4
00705	-050000002205	010	156A	CAL 2)+5	00773	-053400202356	010	D)62E	LXD C)G8,2
00706	-063400402231	010		SXD 6)+4,4	00774	-053400402350	010	D)42E	LXD C)G2,4
00707	+007400400005	010		TSX (STM),4	00775	+050000002371	010	175A	CLA N
00710	+000000002320	010		PZE 8)SB	00776	+040200446746	010		SUB NCT+1,4
00711	+007400400006	010		TSX (FIL),4	00777	+010000001001	010	175A1	TZE 176A
00712	+007400400007	010		TSX WRT2,4	01000	+012000001021	010		TPL 181A
00713	-053400402231	010		LXD 6)+4,4	01001	+050000077456	010	176A	CLA NLAST
00714	-050000002205	010	158A	CAL 2)+5	01002	+040200002201	010		SUB 2)+1
00715	-063400402231	010		SXD 6)+4,4	01003	+060100077456	010		STC NLAST
00716	+007400400005	010		TSX (STM),4	01004	-053400477456	010		LXD NLAST,4
00717	+000000002264	010		PZE 8)SK	01005	-063400402350	010		SXD C)G2,4
00720	-053400402231	010		LXD 6)+4,4	01006	+050200002201	010	177A	CLS 2)+1
00721	-053400102201	010	159A	LXD 2)+1,1	01007	+060100046534	010		STC IER
00722	+050000046524	010		CLA NV2	01010	-063400402231	010	178A	SXD 6)+4,4
00723	+062200000727	010		STD 160A2	01011	+007400400017	010	179A	TSX RESET,4
00724	+056000146511	010	160A	LDQ SUB+1,1	01012	+007400002375	010		TXS L
00725	-100000000000	00		STR	01013	-053400402231	010		LXD 6)+4,4
00726	+100001100727	010	160A1	TXI *+1,1,1	01014	-053400202375	010		LXD L,2
00727	-300000100724	010	160A2	TXL 160A,1	01015	-063400202356	010		SXD C)G8,2
00730	-063400402231	010	162A	SXD 6)+4,4	01016	+002000201021	010	180A	TRA 180A,3,2
00731	+007400400006	010		TSX (FIL),4	01017	+002000000775	010		TRA 175A
00732	-053400402231	010		LXD 6)+4,4	01020	+002000002115	010		TRA 309A
00733	-050000002205	010	163A	CAL 2)+5	01021	+050000077456	010	181A	CLA NLAST
00734	-063400402231	010		SXD 6)+4,4	01022	+060100046532	010		STC NSAVE
00735	+007400400005	010		TSX (STM),4	01023	+050000077456	010	182A	CLA NLAST
00736	+000000002257	010		PZE 8)SL	01024	+040000077456	010		ADD NLAST
00737	+007400400006	010		TSX (FIL),4	01025	+060100046526	010		STC NLST
00740	-053400402231	010		LXD 6)+4,4	01026	-053400146526	010		LXD NLST,1
00741	+050000002203	010	164A	CLA 2)+3	01027	-063400102351	010		SXD C)G3,1
00742	+060100046533	010		STC LINE	01030	+050000077452	010	183A	CLA NT=7
00743	+050000002173	010	165A	CLA 5)+10	01031	+010000001263	010	183A1	TZE 227A
00744	+060100002404	010		STC IIX	01032	+012000001034	010		TPL 184A
00745	-053400102201	010	166A	LXD 2)+1,1	01033	+002000001263	010		TRA 227A
00746	-063400102362	010		SXD C)200,1	01034	-053400402201	010	184A	LXD 2)+1,4
00747	+050000002371	010		CLA N	01035	+050000046524	010		CLA NV2
00750	+062200000770	010		STD 173A2	01036	+062200001067	010		STD 191A2
00751	-050000002202	010	167A	CAL 2)+2	01037	-053400202355	010	D)221	LXD C)G7,2
00752	+007400400015	010		TSX (TSB),4	01040	+002000201044	010	185A	TRA 185A,4,2
00753	-053400402201	010	168A	LXD 2)+1,4	01041	+002000001044	010		TRA 186A
00754	+050000046523	010		CLA NV3	01042	+002000001050	010		TRA 187A
00755	+062200000761	010		STD 169A2	01043	+002000001066	010		TRA 191A
00756	-100000000000	00	169A	STR	01044	+056000446523	010	186A	LDQ ADD+1,4
00757	-060000447310	010		STQ X+1,4	01045	+026000077416	010		FMP Q

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01046	+024100077401	010	FDP	A	01134	+007400400007	010	TSX	WRT2,4
01047	-060000447124	010	STQ	SCA+1,4	01135	-053400402201	010	206A	LXD 2)+1,4
01050	-050000447124	010	187A	CAL SCA+1,4	01136	-063400402363	010		SXD C)201,4
01051	-032000002222	010		ANA 3)+7	01137	+050000002371	010		CLA N
01052	+060200447124	010		SLW SCA+1,4	01140	+062200001171	010		STD 213A2
01053	+050000447124	010	188A	CLA MSCA+1,4	01141	-053400102363	010	0112U	LXD C)201,1
01054	+040200002406	010		SUB MSC1	01142	-050000002202	010	207A	CAL 2)+2
01055	+060100447124	010		STC MSCA+1,4	01143	+007400400015	010		TSX (TSB),4
01056	+050000002202	010	189A	CLA 2)+2	01144	-053400202201	010	208A	LXD 2)+1,2
01057	+040200077452	010		SUB NT=7	01145	+050000046523	010		CLA NV3
01060	+010000001066	010	189A1	TZE 191A	01146	+062200001152	010		STD 209A2
01061	+012000001066	010		TPL 191A	01147	-100000000000	00	209A	STR
01062	-063400402347	010	E)2L	SXD C)G1,4	01150	-060000247310	010		STQ X+1,2
01063	+050000447124	010	190A	CLA MSCA+1,4	01151	+100001201152	010	209A1	TXI **1,2,1
01064	+040000002405	010		ADD MSC2	01152	-300000201147	010	209A2	TXL 209A,2
01065	+060100447124	010		STC MSCA+1,4				211A	BSS
			191A	BSS	01153	+007400400016	010		TSX (RLR),4
01066	+100001401067	010	191A1	TXI **1,4,1	01154	-053400202355	010		LXD C)G7,2
01067	-300000401040	010	191A2	TXL 185A,4	01155	+002000201160	010	212A	TRA 212A+3,2
01070	+050000047123	010	192A	CLA MSCA	01156	+002000001160	010		TRA 212A1
01071	+010000001074	010	192A1	TZE 193A	01157	+002000001163	010		TRA 212A2
01072	+012000001076	010		TPL 194A	01160	-075400100000	00	212A1	PXD 0,1
01073	+002000001076	010		TRA 194A	01161	+060100002401	010		STC K
01074	+050000047122	010	193A	CLA MSCA=1	01162	+002000001522	010		TRA 270A
01075	+010000001107	010	193A1	TZE 196A	01163	-075400100000	00	212A2	PXD 0,1
01076	+050000002202	010	194A	CLA 2)+2	01164	+060100002401	010		STC K
01077	+060100002364	010		STC NT8	01165	+002000001550	010		TRA 277A
01100	-053400202364	010		LXD NT8,2				213A	BSS
01101	-063400202355	010		SXD C)G7,2	01166	-053400102363	010		LXD C)201,1
01102	+050000077447	010	195A	CLA NT=10	01167	+100001101170	010	213A1	TXI **1,1,1
01103	+040200002204	010		SUB 2)+4	01170	-063400102363	010		SXD C)201,1
01104	+010000001120	010	195A1	TZE 200A	01171	-300000101142	010	213A2	TXL 207A,1
01105	+012000001120	010		TPL 200A	01172	-050000002202	010	214A	CAL 2)+2
01106	+002000001115	010		TRA 198A	01173	+007400400004	010		TSX (RWT),4
01107	+050000002200	010	196A	CLA 2)	01174	-053400102355	010		LXD C)G7,1
01110	+060100077452	010		STC NT=7	01175	+002000101200	010	215A	TRA 215A+3,1
01111	+050000002201	010	197A	CLA 2)+1	01176	+002000001200	010		TRA 216A
01112	+060100002364	010		STC NT8	01177	+002000001260	010		TRA D)73A
01113	-053400202364	010		LXD NT8,2	01200	+050000002200	010	216A	CLA 2)
01114	-063400202355	010		SXD C)G7,2	01201	+060100047077	010		STC MSAV
01115	+050000002174	010	198A	CLA 5)+11	01202	+050000047123	010	217A	CLA MSCA
01116	+060100002403	010		STC IJK	01203	+060100047076	010		STC MSAV=1
01117	+002000001135	010	199A	TRA 206A	01204	+050000047122	010	218A	CLA MSCA=1
01120	+050000002175	010	200A	CLA 5)+12	01205	+060100047075	010		STC MSAV=2
01121	+060100002403	010		STC IJK	01206	-053400202202	010	219A	LXD 2)+2,2
01122	+050000002176	010	201A	CLA 5)+13	01207	-063400202357	010		SXD C)G9,2
01123	+060100002404	010		STC IJK	01210	+050000077456	010		CLA NLAST
01124	+050000002177	010	202A	CLA 5)+14	01211	+062200001257	010		STD 226A2
01125	+060100002376	010		STC LLT	01212	-075400200000	00		PXD 0,2
01126	-050000002205	010	203A	CAL 2)+5	01213	+060100046677	010		STC NDEG
01127	+007400400005	010		TSX (STH),4	01214	-053400102352	010	01136	LXD C)G4,1
01130	+000000002315	010		PZE 8)S9	01215	+050000246746	010	220A	CLA NCT+1,2
01131	+007400400006	010		TSX (FIL),4	01216	+060100046700	010		STC NC
01132	+050000002203	010	204A	CLA 2)+3	01217	-053400446700	010		LXD NC,4
01133	+060100046533	010		STC LINE	01220	-063400402360	010		SXD C)GA,4
			205A	BSS	01221	+050000046700	010	221A	CLA NC

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01222	+040200002201	010	SUB 2)+1	01312	-063400402231	010	SXD 6)+4,4
01223	+060100002377	010	STC L2	01313	+007400400005	010	TSX (STH),4
01224	+0500000046700	010	222A CLA NC	01314	+000000002276	010	PZE 8)SF
01225	+040200046677	010	SUB NDEG	01315	+007400400006	010	TSX (FIL),4
01226	+060100002400	010	STC L1	01316	-053400402231	010	LXD 6)+4,4
01227	-053400202400	010	223A LXD L1,2	01317	+002000001334	010	237A TRA 243A
01230	+050000002377	010	CLA L2	01320	-050000002205	010	238A CAL 2)+5
01231	+062200001246	010	STD 225A2	01321	+007400400005	010	TSX (STH),4
01232	-075400200000	00	PXD 0,2	01322	+000000002256	010	PZE 8)SM
01233	+060100002375	010	STC L	01323	-053400402201	010	239A LXD 2)+1,4
01234	+050000002375	010	224A CLA L	01324	+050000046527	010	CLA MSV2
01235	+040200046677	010	SUB NDEG	01325	+062200001331	010	STD 240A2
01236	+060100002402	010	STC I	01326	+056000477402	010	240A LDQ A+1,4
01237	-053400402402	010	LXD I,4	01327	-100000000000	00	STR
01240	-063400402352	010	SXD C)G4,4	01330	+100001401331	010	240A1 TXI *+1,4,1
01241	+050000447100	010	225A CLA MSAV+1,4	01331	-300000401326	010	240A2 TXL 240A,4
01242	+040000047076	010	ADD MSAV=1				242A BSS
01243	+060100247100	010	STC MSAV+1,2	01332	+007400400006	010	TSX (FIL),4
01244	+100001201245	010	225A1 TXI *+1,2,1	01333	-053400402350	010	D)43F LXD C)G2,4
01245	-063400202375	010	SXD L,2	01334	-063400402231	010	243A SXD 6)+4,4
01246	-300000201234	010	225A2 TXL 224A,2	01335	+007400400022	010	TSX UVMAX,4
01247	+050000447100	010	226A CLA MSAV+1,4	01336	-053400402231	010	LXD 6)+4,4
01250	+040000047075	010	ADD MSAV=2	01337	+050000077452	010	244A CLA NT=7
01251	-053400102360	010	LXD C)G4,1	01340	+010000001346	010	244A1 TZE 246A
01252	+060100147100	010	STC MSAV+1,1	01341	+012000001343	010	TPL 245A
01253	-053400202357	010	LXD C)G9,2	01342	+002000001346	010	TRA 246A
01254	+100001201255	010	226A1 TXI *+1,2,1	01343	-063400402231	010	245A SXD 6)+4,4
01255	-063400202357	010	SXD C)G9,2	01344	+007400400023	010	TSX WRT3,4
01256	-063400246677	010	SXD NDEG,2	01345	-053400402231	010	LXD 6)+4,4
01257	-300000201214	010	226A2 TXL D)136,2	01346	+050000046530	010	246A CLA MSV
01260	-053400402350	010	D)73A LXD C)G2,4	01347	+076500000043	00	LRS 35
01261	-053400202356	010	D)33A LXD C)G8,2	01350	+022100002207	010	DVP 2)+7
01262	-053400102351	010	D)13A LXD C)G3,1	01351	+076000000000	00	CLM
01263	+050000446746	010	227A CLA NCT+1,4	01352	+076300000022	00	LLS 18
01264	+060100046530	010	STC MSV	01353	+013100000000	00	XCA
01265	+050000146746	010	228A CLA NCT+1,1	01354	+040000002203	010	ADD 2)+3
01266	+060100046527	010	STC MSV2	01355	+060100002346	010	STC 1)+2
01267	-063400402231	010	229A SXD 6)+4,4	01356	+050000002210	010	CLA 2)+8
01270	+007400400020	010	TSX MCOPY,4	01357	+076500000043	00	LRS 35
01271	-053400402231	010	LXD 6)+4,4	01360	+022100002346	010	DVP 1)+2
01272	+050000002201	010	230A CLA 2)+1	01361	+076000000000	00	CLM
01273	+040200077450	010	SUB NT=9	01362	+076300000022	00	LLS 18
01274	+010000001320	010	230A1 TZE 238A	01363	-060000002374	010	STQ MM
01275	+012000001464	010	TPL 262A	01364	+050000002374	010	247A CLA MM
01276	-050000002223	010	231A CAL 3)+8	01365	+060100046533	010	STC LINE
01277	+060200046665	010	SLW TITL=8	01366	-053400102201	010	248A LXD 2)+1,1
01300	-050000002224	010	232A CAL 3)+9	01367	+050000046530	010	CLA MSV
01301	+060200046664	010	SLW TITL=9	01370	+062200001435	010	STD 256A2
01302	+050000077456	010	233A CLA NLAST	01371	+050000046530	010	CLA MSV
01303	+060100046677	010	STC NDEG	01372	+040200002230	010	SUB 6)+3
01304	-063400402231	010	234A SXD 6)+4,4	01373	+062200001461	010	STD 261A3
01305	+007400400021	010	235A TSX MWRITE,4	01374	+040000002212	010	ADD 2)+10
01306	+007400060551	010	TSX B	01375	+062200001457	010	STD 261A1
01307	+007400077450	010	TSX NT=9	01376	+050000046530	010	CLA MSV
01310	-053400402231	010	LXD 6)+4,4	01377	+062200001436	010	STD 256A3
01311	-050000002205	010	236A CAL 2)+5	01400	-053400402201	010	LXD 2)+1,4

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01401	+050000077460	010	CLA NV	01470	+007400400005	010	TSX (STH),4
01402	+062200001463	010	STD 261A4	01471	+000000002275	010	PZE 8)SJ
01403	+050000002374	010	249A CLA MM	01472	+056000002371	010	264A LDQ N
01404	+040200046533	010	SUB LINE	01473	-100000000000	00	STR
01405	+010000001407	010	249A1 TZE 250A	01474	+056000077456	010	LDQ NLAST
01406	+012000001423	010	TPL 253A	01475	-100000000000	00	STR
01407	-050000002205	010	250A CAL 2)+5	01476	+007400400006	010	TSX (FIL),4
01410	-063400402231	010	SXD 6)+4,4	01477	+002000001515	010	265A TRA D)43R
01411	+007400400005	010	TSX (STH),4	01500	-053400402350	010	D)43Q LXD C)G2,4
01412	+000000002343	010	PZE 8)S4	01501	-050000002205	010	266A CAL 2)+5
01413	-053400402231	010	LXD 6)+4,4	01502	-063400402231	010	SXD 6)+4,4
01414	+056000077456	010	251A LDQ NLAST	01503	+007400400005	010	TSX (STH),4
01415	-100000000000	00	STR	01504	+000000002247	010	PZE 8)SN
01416	-063400402231	010	SXD 6)+4,4	01505	-053400402231	010	LXD 6)+4,4
01417	+007400400006	010	TSX (FIL),4	01506	+056000077456	010	267A LDQ NLAST
01420	-053400402231	010	LXD 6)+4,4	01507	-100000000000	00	STR
01421	+050000002200	010	252A CLA 2)	01510	-063400402231	010	SXD 6)+4,4
01422	+060100046533	010	STO LINE	01511	+007400400006	010	TSX (FIL),4
01423	-050000002205	010	253A CAL 2)+5	01512	-053400402231	010	LXD 6)+4,4
01424	-063400402231	010	SXD 6)+4,4	01513	+002000001516	010	TRA 268A
01425	+007400400005	010	TSX (STH),4	01514	-053400202356	010	D)63R LXD C)G8,2
01426	+000000002333	010	PZE 8)S5	01515	-053400402350	010	D)43R LXD C)G2,4
01427	-053400402231	010	LXD 6)+4,4	01516	-053400100026	010	268A LXD S+1
01430	+056000446662	010	254A LDQ NVJ+1,4	01517	-053400200027	010	LXD S+1,2
01431	-100000000000	00	STR	01520	-053400400030	010	LXD S+2,4
			255A BSS	01521	+002000400001	00	TRA 1,4
01432	+056000150630	010	256A LDQ Y+1,1	01522	-053400402201	010	270A LXD 2)+1,4
01433	-100000000000	00	STR	01523	+050000046524	010	CLA NV2
01434	+100001101435	010	256A1 TXI *+1,1,1	01524	+062200001544	010	STD 276A2
01435	-300000101432	010	256A2 TXL 256A,1	01525	+050000447307	010	271A CLA MX,4
01436	+200000101437	010	256A3 TIX *+1,1	01526	+076000000003	00	SSP
01437	-063400402231	010	258A SXD 6)+4,4	01527	+040200447124	010	SUB MSCA+1,4
01440	+007400400006	010	TSX (FIL),4	01530	+060100065653	010	STO MTEMP
01441	-053400402231	010	LXD 6)+4,4	01531	+050000065653	010	272A CLA MTEMP
01442	-050000002205	010	259A CAL 2)+5	01532	+010000001534	010	272A1 TZE 273A
01443	-063400402231	010	SXD 6)+4,4	01533	+012000001537	010	TPL 275A
01444	+007400400005	010	TSX (STH),4	01534	+050000002200	010	273A CLA 2)
01445	+000000002326	010	PZE 8)S7	01535	+060100447307	010	STO MX,4
01446	-053400402231	010	LXD 6)+4,4	01536	+002000001543	010	274A TRA 276A
01447	+056000447244	010	260A LDQ SSUM+1,4	01537	+050000065653	010	275A CLA MTEMP
01450	-100000000000	00	STR	01540	+056000447307	010	LDQ MX,4
01451	-063400402231	010	SXD 6)+4,4	01541	+076300000000	00	LLS
01452	+007400400006	010	TSX (FIL),4	01542	+060100447307	010	STO MX,4
01453	-053400402231	010	LXD 6)+4,4				276A BSS
01454	+050000046533	010	261A CLA LINE	01543	+100001401544	010	276A1 TXI *+1,4,1
01455	+040000002201	010	ADD 2)+1	01544	-300000401525	010	276A2 TXL 271A,4
01456	+060100046533	010	STO LINE	01545	+002000001550	010	TRA 277A
01457	+100000101460	010	261A1 TXI *+1,1	01546	-053400102363	010	D)342 LXD C)201,1
01460	-063400101435	010	SXD 256A2,1	01547	-053400202355	010	D)242 LXD C)G7,2
01461	+200000101462	010	261A3 TIX *+1,1	01550	-050000077462	010	277A CAL 4)-205
01462	+100001401463	010	TXI *+1,4,1	01551	+060000077462	010	STZ 4)-205
01463	-300000401403	010	261A4 TXL 249A,4	01552	-010000001553	010	278A TNZ 279A
01464	+050000046534	010	262A CLA IER	01553	+050000047306	010	279A CLA X=1
01465	+010000001515	010	262A1 TZE D)43R	01554	+060100060550	010	STO B=1
01466	+012000001500	010	TPL D)43Q	01555	+050000047305	010	280A CLA X=2
01467	-050000002205	010	263A CAL 2)+5	01556	+060100060547	010	STO B=2

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01557	+050000077400	010	281A	CLA A=1	01647	-060000077775	010	STQ 4)-2
01560	+060100077777	010		STC 4)	01650	+056000254601	010	LDQ B=2024,2
01561	+050000072657	010		CLA A=2386	01651	-060000077774	010	STQ 4)-3
01562	+060100077776	010		STC 4)-1	01652	+050000000025	010	CLA (DFMP)
01563	+050000000024	010		CLA (DFAD)	01653	+060100000002	00	STC 2
01564	+060100000002	00		STC 2	01654	-100000060550	010	STR B=1
01565	-100000060550	010		STR B=1	01655	+000000054577	010	PZE B=2026
01566	+000000054577	010		PZE B=2026	01656	+056000002232	010	LDQ 6)+5
01567	+056000002232	010		LDQ 6)+5	01657	-060000000002	00	STQ 2
01570	-060000000002	00		STQ 2	01660	+050000077777	010	CLA 4)
01571	+050000077777	010		CLA 4)	01661	+060100460552	010	STC B+1,4
01572	+060100077400	010		STC A=1	01662	+050000077776	010	CLA 4)-1
01573	+050000077776	010		CLA 4)-1	01663	+060100454601	010	STC B=2024,4
01574	+060100072657	010		STC A=2386	01664	+050000477402	010	290A CLA A+1,4
01575	+050000077377	010	282A	CLA A=2	01665	+060100077777	010	STC 4)
01576	+060100077777	010		STC 4)	01666	+050000472661	010	CLA A=2384,4
01577	+050000072656	010		CLA A=2387	01667	+060100077776	010	STC 4)-1
01600	+060100077776	010		STC 4)-1	01670	+050000000024	010	CLA (DFAD)
01601	+050000000024	010		CLA (DFAD)	01671	+060100000002	00	STC 2
01602	+060100000002	00		STC 2	01672	-100000460552	010	STR B+1,4
01603	-100000060547	010		STR B=2	01673	+000000454601	010	PZE B=2024,4
01604	+000000054576	010		PZE B=2027	01674	+056000002232	010	LDQ 6)+5
01605	+056000002232	010		LDQ 6)+5	01675	-060000000002	00	STQ 2
01606	-060000000002	00		STQ 2	01676	+050000077777	010	CLA 4)
01607	+050000077777	010		CLA 4)	01677	+060100477402	010	STC A+1,4
01610	+060100077377	010		STC A=2	01700	+050000077776	010	CLA 4)-1
01611	+050000077776	010		CLA 4)-1	01701	+060100472661	010	STC A=2384,4
01612	+060100072656	010		STC A=2387	01702	+100001401703	010	290A1 TXI **1,4,1
01613	-053400402202	010	283A	LXD 2)+2,4	01703	-063400402375	010	SXD L,4
01614	-063400402357	010		SXD C)G9,4	01704	-300000401641	010	290A2 TXL 288A,4
01615	+050000046526	010		CLA NLSI	01705	+056000260552	010	291A LDQ B+1,2
01616	+062200001746	010		STD 292A2	01706	-060000077775	010	STQ 4)-2
01617	-075400400000	00		PXD 0,4	01707	+056000254601	010	LDQ B=2024,2
01620	+060100046677	010		STC NDEG	01710	-060000077774	010	STQ 4)-3
01621	-053400102352	010	D)144	LXD C)G4,1	01711	+050000000025	010	CLA (DFMP)
01622	+050000466746	010	284A	CLA NCT+1,4	01712	+060100000002	00	STC 2
01623	+060100046700	010		STC NC	01713	-100000060547	010	STR B=2
01624	-053400246700	010		LXD NC,2	01714	+000000054576	010	PZE B=2027
01625	-063400202360	010		SXD C)GA,2	01715	+056000002232	010	LDQ 6)+5
01626	+050000046700	010	285A	CLA NC	01716	-060000000002	00	STQ 2
01627	+040200002201	010		SUB 2)+1	01717	+050000077777	010	CLA 4)
01630	+060100002377	010		STC L2	01720	-053400102360	010	LXD C)GA,1
01631	+050000046700	010	286A	CLA NC	01721	+060100160552	010	STC B+1,1
01632	+040200046677	010		SUB NDEG	01722	+050000077776	010	CLA 4)-1
01633	+060100002400	010		STC L1	01723	+060100154601	010	STC B=2024,1
01634	-053400402400	010	287A	LXD L1,4	01724	+050000177402	010	292A CLA A+1,1
01635	+050000002377	010		CLA L2	01725	+060100077777	010	STC 4)
01636	+062200001704	010		STD 290A2	01726	+050000172661	010	CLA A=2384,1
01637	-075400400000	00		PXD 0,4	01727	+060100077776	010	STC 4)-1
01640	+060100002375	010		STC L	01730	+050000000024	010	CLA (DFAD)
01641	+050000002375	010	288A	CLA L	01731	+060100000002	00	STC 2
01642	+040200046677	010		SUB NDEG	01732	-100000160552	010	STR B+1,1
01643	+060100002402	010		STC I	01733	+000000154601	010	PZE B=2024,1
01644	-053400202402	010		LXD I,2	01734	+056000002232	010	LDQ 6)+5
01645	-063400202352	010		SXD C)G4,2	01735	-060000000002	00	STQ 2
01646	+056000260552	010	289A	LDQ B+1,2	01736	+050000077777	010	CLA 4)

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01737	+060100177402	010	STC	A=1,1	02027	+056000147305	010	299A	LDQ	X=2,1	
01740	+050000077776	010	CLA	4)=1	02030	-060000077775	010		STQ	4)=2	
01741	+060100172661	010	STC	A=2384,1	02031	+056000147272	010		LDQ	X=13,1	
01742	+053400402357	010	LXD	C)G9,4	02032	-060000077774	010		STQ	4)=3	
01743	+100001401744	010	292A1	TXI	*=1,4,1	02033	+050000000025	010		CLA	(DFMP)
01744	-063400402357	010		SXD	C)G9,4	02034	+060100000002	00		STC	2
01745	-063400446677	010		SXD	NDEG,4	02035	-100000260552	010		STR	B=1,2
01746	-300000401621	010	292A2	TXL	D)144,4	02036	+000000254601	010		PZE	B=2024,2
01747	-050000077462	010	293A	CAL	4)=205	02037	+050000000024	010		CLA	(DFAD)
01750	+060000077462	010		STZ	4)=205	02040	+060100000002	00		STC	2
01751	-010000002065	010	294A	TNZ	301A	02041	-100000450630	010		STR	Y=1,4
01752	-053400402202	010	295A	LXD	Z)=2,4	02042	+000000450060	010		PZE	Y=359,4
01753	+050000002373	010		CLA	M	02043	+056000002232	010		LDQ	6)=5
01754	+040200002202	010		SUB	Z)=2	02044	-060000000002	00		STC	2
01755	+040000002230	010		ADD	6)=3	02045	+050000077777	010		CLA	4)
01756	+062200002054	010		STD	299A3	02046	+060100450630	010		STC	Y=1,4
01757	-053400202201	010		LXD	Z)=1,2	02047	+050000077776	010		CLA	4)=1
01760	-063400202361	010		SXD	C)101,2	02050	+060100450060	010		STC	Y=359,4
01761	-053400102201	010		LXD	Z)=1,1	02051	+100001402052	010	299A1	TXI	*=1,4,1
01762	+050000077460	010		CLA	NV	02052	+100001202053	010		TXI	*=1,2,1
01763	+062200002063	010		STD	299A4	02053	-300000202027	010	299A2	TXL	299A,2
01764	+050000250630	010	296A	CLA	Y=1,2	02054	+200000402055	010	299A3	TIX	*=1,4
01765	+060100077777	010		STC	4)	02055	+100055402056	010		TXI	*=1,4,4,5
01766	+050000250060	010		CLA	Y=359,2	02056	-053400202361	010		LXD	C)101,2
01767	+060100077776	010		STC	4)=1	02057	+100055202060	010		TXI	*=1,2,4,5
01770	+050000000024	010		CLA	(DFAD)	02060	-063400202361	010		SXD	C)101,2
01771	+060100000002	00		STC	2	02061	+100001102062	010		TXI	*=1,1,1
01772	-100000147305	010		STR	X=2,1	02062	-063400102347	010		SXD	C)G1,1
01773	+000000147272	010		PZE	X=13,1	02063	-300000101764	010	299A4	TXL	296A,1
01774	+056000002232	010		LDQ	6)=5	02064	+002000002403	010	300A	TRA	IJK
01775	-060000000002	00		STC	2	02065	+050000077456	010	301A	CLA	NLAST
01776	+050000077777	010		CLA	4)	02066	+040200002201	010		SUB	Z)=1
01777	+060100250630	010		STC	Y=1,2	02067	+060100077456	010		STC	NLAST
02000	+050000077776	010		CLA	4)=1	02070	-053400477456	010		LXD	NLAST,4
02001	+060100250060	010		STC	Y=359,2	02071	-063400402350	010		SXD	C)G2,4
02002	+056000147305	010	297A	LDQ	X=2,1	02072	+050000002201	010	302A	CLA	Z)=1
02003	-060000077775	010		STQ	4)=2	02073	+060100046534	010		STC	IER
02004	+056000147272	010		LDQ	X=13,1	02074	-063400402231	010	303A	SXD	6)=4,4
02005	-060000077774	010		STQ	4)=3	02075	+007400400017	010	304A	TSX	RESET,4
02006	+050000000025	010		CLA	(DFMP)	02076	+007400002375	010		TSX	L
02007	+060100000002	00		STC	2	02077	-053400402231	010		LXD	6)=4,4
02010	-100000147305	010		STR	X=2,1	02100	-053400202375	010		LXD	L,2
02011	+000000147272	010		PZE	X=13,1	02101	-063400202356	010		SXD	C)G8,2
02012	+050000000024	010		CLA	(DFAD)	02102	+002000202105	010	305A	TRA	305A,3,2
02013	+060100000002	00		STC	2	02103	+002000002105	010		TRA	306A
02014	-100000147244	010		STR	SSUM+1,1	02104	+002000002115	010		TRA	309A
02015	+000000147234	010		PZE	SSUM=7,1	02105	+050000077456	010	306A	CLA	NLAST
02016	+056000002232	010		LDQ	6)=5	02106	+040000077456	010		ADD	NLAST
02017	-060000000002	00		STQ	2	02107	+060100046526	010		STC	NLST
02020	+050000077777	010		CLA	4)	02110	-053400246526	010		LXD	NLST,2
02021	+060100147244	010		STC	SSUM+1,1	02111	-063400202351	010		SXD	C)G3,2
02022	+050000077776	010		CLA	4)=1	02112	+050000446746	010	307A	CLA	NCT+1,4
02023	+060100147234	010		STC	SSUM=7,1	02113	+060100002373	010		STC	M
02024	-053400202202	010	298A	LXD	Z)=2,2	02114	+002000001752	010	308A	TRA	295A
02025	+050000002373	010		CLA	M	02115	+050000002200	010	309A	CLA	Z)
02026	+062200002053	010		STD	299A2	02116	+060100077425	010		STC	NT=28

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02117	+050200002202	010	310A	CLS 2)+2	02204	+000003000000	00	GCT	+000003000000	
02120	+060100046676	010		STC IERR	02205	+000006000000	00	GCT	+000006000000	
02121	+002000001501	010	311A	TRA 266A	02206	+000004000000	00	GCT	+000004000000	
02122	-053400102362	010	D)34G	LXD C)200,1	02207	+000007000000	00	GCT	+000007000000	
02123	-053400202353	010	D)24G	LXD C)65,2	02210	+000066000000	00	GCT	+000066000000	
02124	+050000046533	010	312A	CLA LINE	02211	+000070000000	00	GCT	+000070000000	
02125	+040000002201	010		ADD 2)+1	02212	+000055000000	00	GCT	+000055000000	
02126	+060100046533	010		STC LINE	02213	+201000000000	00	3)	GCT	+201000000000
02127	+050000002211	010	313A	CLA 2)+9	02214	+001000000000	00	GCT	+001000000000	
02130	+040200046533	010		SUB LINE	02215	+201400000000	00	GCT	+201400000000	
02131	+010000002133	010	313A1	TZE 314A	02216	+000000000000	00	GCT	+000000000000	
02132	+012000002145	010		TPL 320A	02217	+000000000000	00	GCT	+000000000000	
02133	+050000002202	010	314A	CLA 2)+2	02220	+000000000000	00	GCT	+000000000000	
02134	+060100046533	010		STC LINE	02221	+000000000000	00	GCT	+000000000000	
02135	-050000002205	010	315A	CAL 2)+5	02222	+377000000000	00	GCT	+377000000000	
02136	+007400400005	010		TSX (STH),4	02223	-206064656044	00	GCT	-206064656044	
02137	+000000002276	010		PZE 8)SF	02224	+216351316760	00	GCT	+216351316760	
02140	+007400400006	010		TSX (FIL),4	02225	+233000000000	00	6)	GCT	+233000000000
02141	+002000002376	010	316A	TRA LLT	02226	+000000377777	00	GCT	+000000377777	
			317A	BSS	02227	+000000000000	00	GCT	+000000000000	
02142	+007400400014	010		TSX WRT1,4	02230	+000001000000	00	GCT	+000001000000	
02143	+002000002145	010	318A	TRA 320A	02231	+000000000000	00	GCT	+000000000000	
			319A	BSS	02232	+000000000000	00	GCT	+000000000000	
02144	+007400400007	010		TSX WRT2,4	02233	-340102210634	00	8)SO	BCD 1(12A6)	
02145	-050000002205	010	320A	CAL 2)+5	02234	+346060606060	00	BCD 1)		
02146	+007400400005	010		TSX (STH),4	02235	-236063463102	00	BCD 1T TOI2		
02147	+000000002301	010		PZE 8)SE	02236	+256051256225	00	BCD 1E RESE		
02150	-053400402201	010	321A	LXD 2)+1,4	02237	-202425275125	00	BCD 1 DEGRE		
02151	+050000046523	010		CLA NV3	02240	+216731446444	00	BCD 1AXIMUM		
02152	+062200002156	010		STD 322A2	02241	+316733606044	00	BCD 1IX, M		
02153	+056000447310	010	322A	LQX X+1,4	02242	-256044216351	00	BCD 1V MATR		
02154	-100000000000	00		STR	02243	-233145276064	00	BCD 1TING U		
02155	+100001402156	010	322A1	TXI *+1,4,1	02244	+272545255121	00	BCD 1GENERA		
02156	-300000402153	010	322A2	TXL 322A,4	02245	-112643466660	00	BCD 1RFLOW		
			324A	BSS	02246	+063000466525	00	BCD 16HOOVE		
02157	+007400400006	010		TSX (FIL),4	02247	-340130006105	00	8)SN	BCD 1(1H0/5	
02160	+002000002404	010	325A	TRA IJK	02250	+103307343460	00	BCD 18,7))		
02161	+002000000607	010	5)	TRA D)21Q	02251	-270147072501	00	BCD 1X1P7E1		
02162	+002000002144	010		TRA 319A	02252	+316761617404	00	BCD 1IX//14		
02163	+002000000502	010		TRA 116A	02253	-256044216351	00	BCD 1V MATR		
02164	+002000002122	010		TRA D)34G	02254	-226046266064	00	BCD 1S OF U		
02165	+002000000502	010		TRA 116A	02255	-032544254563	00	BCD 1LEMENT		
02166	+002000000522	010		TRA 122A	02256	-340202300125	00	8)SM	BCD 1(22H1E	
02167	+002000000514	010		TRA 120A	02257	-340130603460	00	8)SL	BCD 1(1H)	
02170	+002000000513	010		TRA 119A	02260	+260102330334	00	BCD 1F12,3)		
02171	+002000000503	010		TRA 117A	02261	+010133037311	00	BCD 111,3,9		
02172	+002000002142	010		TRA 317A	02262	-223031266326	00	BCD 1SHIFTF		
02173	+002000000766	010		TRA 173A	02263	+316261063060	00	BCD 1IS/6H		
02174	+002000001166	010		TRA 213A	02264	-340530602167	00	8)SK	BCD 1(5H AX	
02175	+002000002122	010		TRA D)34G	02265	+310234606060	00	BCD 1I2)		
02176	+002000001166	010		TRA 213A	02266	-222563606346	00	BCD 1SET TO		
02177	+002000002144	010		TRA 319A	02267	-112525605125	00	BCD 1REE RE		
02200	+000000000000	00	2)	GCT +000000000000	02270	-244460242527	00	BCD 1UM DEG		
02201	+000001000000	00		GCT +000001000000	02271	-204421673144	00	BCD 1 MAXIM		
02202	+000002000000	00		GCT +000002000000	02272	+314563623360	00	BCD 1INTS.		
02203	+000005000000	00		GCT +000005000000	02273	+030330604746	00	BCD 133H PO		

SUBROUTINE PLSQ2

02274	+306061310673	00		BCD 1M /I6.
02275	-340130006101	00	8)SJ	BCD 1(1H0/1
02276	-340130013460	00	8)SF	BCD 1(1M1)
02277	+033460606060	00		BCD 13)
02300	+010026010233	00		BCD 110F12.
02301	-340167210473	00	8)SE	BCD 1(1XA4,
02302	-340100310134	00	8)SD	BCD 1(1011)
02303	+003460606060	00		BCD 10)
02304	-340100260733	00	8)SB	BCD 1(10F7.
02305	-042524616134	00		BCD 1MED//)
02306	+214562264651	00		BCD 1ANSFOR
02307	+216321606351	00		BCD 1ATA TR
02310	-340107300124	00	8)SA	BCD 1(17H1D
02311	-213460606060	00		BCD 1/)
02312	+214331452761	00		BCD 1ALING/
02313	-232551606223	00		BCD 1TER SC
02314	+216321602126	00		BCD 1ATA AF
02315	-340111300124	00	8)S9	BCD 1(19H1D
02316	-213460606060	00		BCD 1/)
02317	+216063602161	00		BCD 1A T A/
02320	-341030012460	00	8)S8	BCD 1(8H1D
02321	+346060606060	00		BCD 1)
02322	-072501103307	00		BCD 1PE18.7
02323	-242151256201	00		BCD 1UARES1
02324	-204626606250	00		BCD 1 CF SQ
02325	+010430626444	00		BCD 114HSUM
02326	-340130000767	00	8)S7	BCD 1(1H07X
02327	+103307343460	00		BCD 18.7))
02330	-340467072501	00		BCD 1(4X7E1
02331	+250110330761	00		BCD 1E18.7/
02332	+310273014707	00		BCD 1I2.1P7
02333	-346102300067	00	8)S5	BCD 1(/2HOX
02334	+336161346060	00		BCD 1./)
02335	-336033603360	00		BCD 1, . .
02336	-206274656734	00		BCD 1 S(VX)
02337	-227464673473	00		BCD 1S(UX),
02340	-227467347360	00		BCD 1S(X),
02341	-330367020530	00		BCD 1,3X25H
02342	+275125253102	00		BCD 1GREE12
02343	-340730012425	00	8)S4	BCD 1(7H1D

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SUBROUTINE PLSQ4

SUBROUTINE PLSQ4                                PLSQ4  1
DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8, PLSQ4  2
18),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12)    PLSQ4  3
D DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312) PLSQ4  4
1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1), PLSQ4  5
2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),MSAV(45),SCA(10), PLSQ4  6
1MSCA(10)                                        PLSQ4  7
COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT,    PLSQ4  8
1NCOE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,MSAVE,    PLSQ4  9
2NVSAV,MSV,MSV2,NLST,NC2,NV2,NV3                                PLSQ4 10
EQUIVALENCE (NODECK,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLAST,NT(4)) PLSQ4 11
1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP PLSQ4 12
2,MTEMP),(C,MC),(B,MB),(Y,MY),(X,MX),(XX,MXX),(DET,MDET),(XNORM,NOR PLSQ4 13
3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV)              PLSQ4 14
NFIRST=NFIRST                                                PLSQ4 15
IERR=0                                                         PLSQ4 16
IER=0                                                         PLSQ4 17
NT9=XMINOF(NT(9)+1,3)                                         PLSQ4 18
NT17=XMINOF(NT(17),3)                                         PLSQ4 19
GC TO (10,15,22),NT17                                         PLSQ4 20
10 IF (NT(9)) 15,15,12                                         PLSQ4 21
12 WRITE OUTPUT TAPE 6,911                                     PLSQ4 22
15 NDEG=NFIRST                                                PLSQ4 23
DO 20 J=1,NV                                                  PLSQ4 24
X(J)=(Y(1,J)+Y(1,J))/B(1)                                     PLSQ4 25
20 XX(J)=SSUM(J)-X(J)                                          PLSQ4 26
GC TO 23                                                       PLSQ4 27
22 NDEG=NLAST                                                 PLSQ4 28
23 IF (NT(29)) 27,27,24                                        PLSQ4 29
24 TIM(2)=TIMEF(0)                                             PLSQ4 30
GC TO 27                                                       PLSQ4 31
26 NDEG=NDEG+1                                                PLSQ4 32
27 NC=NCT(NDEG)                                               PLSQ4 33
DO 28 J=1,NC                                                  PLSQ4 34
DO 28 I=1,NC                                                  PLSQ4 35
D 28 A(I,J)=B(I,J)                                             PLSQ4 36
GC TO (30,32,32),NT17                                         PLSQ4 37
30 CALL INVW                                                  PLSQ4 38
IF (IERR) 44,44,42                                            PLSQ4 39
32 DO 34 J=1,NV                                               PLSQ4 40
L=J+NC                                                         PLSQ4 41
DO 34 I=1,NC                                                  PLSQ4 42
D 34 A(I,L)=Y(I,J)                                             PLSQ4 43
GC TO (35,35,37),NT17                                         PLSQ4 44
35 CALL SOLW                                                  PLSQ4 45
IF (IERR) 142,142,42                                          PLSQ4 46
37 CALL SOLVE                                                 PLSQ4 47
IF (IERR) 509,152,435                                         PLSQ4 48
42 NLAST=IERR-1                                               PLSQ4 49
GC TO 440                                                      PLSQ4 50
44 IF (NT(23)) 47,47,45                                        PLSQ4 51
45 DO 46 I=2,NC                                               PLSQ4 52
DC 46 J=I,NC                                                  PLSQ4 53
D A(I-1,J)=0.5*(A(I-1,J)+A(J,I-1))                            PLSQ4 54
D 46 A(J,I-1)=A(I-1,J)                                        PLSQ4 55
47 IF (NT(30)-NDEG) 48,48,50                                  PLSQ4 56

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SUBROUTINE PLSQ4		
48	IF (IER) 49,49,50	PLSQ4 57
49	CALL CORRCT	PLSQ4 58
50	NS=NCDE(NDEG)	PLSQ4 59
	IF ACCUMULATOR OVERFLOW 52,52	PLSQ4 60
52	DC 55 J=1,NV	PLSQ4 61
	DO 55 I=1,NC	PLSQ4 62
	NS=NS+1	PLSQ4 63
D	C(NS)=0.	PLSQ4 64
	DO 55 K=1,NC	PLSQ4 65
D 55	C(NS)=C(NS)+A(I,K)*Y(K,J)	PLSQ4 66
	IF ACCUMULATOR OVERFLOW 430,60	PLSQ4 67
60	GO TO (98,62,62),NT9	PLSQ4 68
B 62	TITL(9)=314565255162	PLSQ4 69
B	TITL(10)=256060606060	PLSQ4 70
	CALL MWRITE (A,NT(9))	PLSQ4 71
	IF (NDEG-NT(30)) 63,98,98	PLSQ4 72
63	GO TO (98,64,66),NT9	PLSQ4 73
64	NT12=3	PLSQ4 74
	WRITE OUTPUT TAPE 6,921,NDEG	PLSQ4 75
	GO TO 70	PLSQ4 76
66	IF (NDEG-NT(12)) 68,68,69	PLSQ4 77
68	NT12=1	PLSQ4 78
	REWIND 3	PLSQ4 79
	GC TO 70	PLSQ4 80
69	NT12=2	PLSQ4 81
70	XNORM=0.	PLSQ4 82
	XNORM(2)=0.	PLSQ4 83
	DC 78 I=1,NC	PLSQ4 84
	DO 73 J=1,NC	PLSQ4 85
D	T(J)=0.	PLSQ4 86
	DO 73 K=1,NC	PLSQ4 87
D 73	T(J)=T(J)+B(J,K)*A(K,I)	PLSQ4 88
D	T(I)=T(I)-1.	PLSQ4 89
	GO TO (74,75,77), NT12	PLSQ4 90
74	WRITE TAPE 3,(A(J,I),J=1,NC)	PLSQ4 91
75	DC 76 J=1,NC	PLSQ4 92
76	A(J,I)=T(J)	PLSQ4 93
77	DO 78 J=1,NC	PLSQ4 94
	XNORM=MAX1F(ABSF(T(J)),XNORM)	PLSQ4 95
78	XNORM(2)=XNORM(2)+T(J)*T(J)	PLSQ4 96
	GO TO (98,93,90),NT9	PLSQ4 97
B 90	TITL(9)=646554314565	PLSQ4 98
B	TITL(10)=403124606060	PLSQ4 99
	CALL MWRITE(A,2)	PLSQ4 00
	GO TO (91,93),NT12	PLSQ4 01
91	REWIND 3	PLSQ4 02
	DC 92 I=1,NC	PLSQ4 03
92	READ TAPE 3,(A(J,I),J=1,NC)	PLSQ4 04
	REWIND 3	PLSQ4 05
93	WRITE OUTPUT TAPE 6,920,XNORM	PLSQ4 06
98	IF (NDEG-NT(12)) 99,99,142	PLSQ4 07
99	IF (NT(8)) 110,110,100	PLSQ4 08
100	DC 105 I=1,NC	PLSQ4 09
	DC 105 J=1,I	PLSQ4 10
	MTEMP=XABSF(MA(I,J))-MSAV(I)-MSAV(J)	PLSQ4 11
	IF (MTEMP) 102,102,103	PLSQ4 12

SUBROUTINE PLSQ4

102	MA(I,J)=0	PLSQ4 13
	GO TO 105	PLSQ4 14
103	MA(I,J)=XSIGNF(MTEMP,MA(I,J))	PLSQ4 15
105	A(J,I)=A(I,J)	PLSQ4 16
110	CALL PUNCH(2)	PLSQ4 17
142	NE=NCQE(NDEG)	PLSQ4 18
	DC 145 J=1,NV	PLSQ4 19
	SSRED(NDEG,J)=0.	PLSQ4 20
	DC 143 I=1,NC	PLSQ4 21
	NE=NE+1	PLSQ4 22
143	SSRED(NDEG,J)=SSRED(NDEG,J)+C(NE)*Y(I,J)	PLSQ4 23
145	SSRED(NDEG,J)=100.+(SSRED(NDEG,J)-X(J))/XX(J)	PLSQ4 24
	DC 150 J=1,NV	PLSQ4 25
	IF (SSRED(NDEG,J)) 510,148,146	PLSQ4 26
146	IF (SSRED(NDEG,J)-100.) 147,151,510	PLSQ4 27
147	IF (SSRED(NDEG,J)-SSRED(NDEG-1,J)) 148,150,150	PLSQ4 28
148	IF (NDEG-NFIRST) 150,150,510	PLSQ4 29
150	CONTINUE	PLSQ4 30
	IF (NDEG-NLAST) 26,152,152	PLSQ4 31
151	NLAST=NDEG	PLSQ4 32
152	IF (NT(29)) 154,154,153	PLSQ4 33
153	TIM(2)=TIMEF(0)-TIM(2)	PLSQ4 34
154	J=0	PLSQ4 35
155	JN=J	PLSQ4 36
	J=J+1	PLSQ4 37
	WRITE OUTPUT TAPE 6,905,NVJ(J),(TIT(I,J),I=1,6)	PLSQ4 38
	GO TO (202,157,159),NT9	PLSQ4 39
157	WRITE OUTPUT TAPE 6,917	PLSQ4 40
	GO TO 160	PLSQ4 41
159	WRITE OUTPUT TAPE 6,923	PLSQ4 42
160	DC 170 NDEG=NFIRST,NLAST	PLSQ4 43
	NC=NCT(NDEG)	PLSQ4 44
	NB=NCQE(NDEG)+JN*NC	PLSQ4 45
	A(NDEG)=0.	PLSQ4 46
	A(NDEG+8)=0.	PLSQ4 47
	DC 165 I=1,NC	PLSQ4 48
	NE=NB	PLSQ4 49
D	T(I)=0.	PLSQ4 50
	DO 161 K=1,NC	PLSQ4 51
	NE=NE+1	PLSQ4 52
D 161	T(I)=T(I)+B(I,K)*C(NE)	PLSQ4 53
D	T(I)=T(I)-Y(I,J)	PLSQ4 54
	A(NDEG)=MAX1F(ABSF(T(I)),A(NDEG))	PLSQ4 55
165	A(NDEG+8)=A(NDEG+8)+T(I)*T(I)	PLSQ4 56
	GO TO (170,170,167),NT9	PLSQ4 57
167	WRITE OUTPUT TAPE 6,922,NDEG,(T(I),I=1,NC)	PLSQ4 58
170	CONTINUE	PLSQ4 59
	WRITE OUTPUT TAPE 6,918,NFIRST,NLAST,(A(I),I=NFIRST,NLAST)	PLSQ4 60
	WRITE OUTPUT TAPE 6,919,(A(I+8),I=NFIRST,NLAST)	PLSQ4 61
	WRITE OUTPUT TAPE 6,900	PLSQ4 62
200	GO TO (202,202,205),NT9	PLSQ4 63
202	IF (NT(8)) 207,207,215	PLSQ4 64
205	WRITE OUTPUT TAPE 6,905,NVJ(J),(TIT(I,J),I=1,6)	PLSQ4 65
	IF (NT(8)) 207,207,210	PLSQ4 66
207	TITL(9)=BLANK	PLSQ4 67
	TITL(10)=BLANK	PLSQ4 68

SUBROUTINE PLSQ4		
	GC TO 255	PLSQ4 69
210	ASSIGN 214 TO KK	PLSQ4 70
B	TITL(9)=606062232143	PLSQ4 71
B	TITL(10)=252460606060	PLSQ4 72
	GC TO 298	PLSQ4 73
214	WRITE OUTPUT TAPE 6,905,NVJ(J),(TIT(I,J),I=1,6)	PLSQ4 74
215	DO 220 NDEG=NFIRST,NLAST	PLSQ4 75
	NC=NCT(NDEG)	PLSQ4 76
	NE=NCOE(NDEG)+JN*NC	PLSQ4 77
	DC 220 I=1,NC	PLSQ4 78
	NE=NE+1	PLSQ4 79
	MTEMP=XABSF(MC(NE))+MSCA(J+2)-MSAV(I)	PLSQ4 80
	IF (MTEMP) 217,217,216	PLSQ4 81
216	MC(NE)=XSIGNF(MTEMP,MC(NE))	PLSQ4 82
	MTEMP=XABSF(MC(NE+1312))+MSCA(J+2)-MSAV(I)	PLSQ4 83
	IF (MTEMP) 218,218,219	PLSQ4 84
217	MC(NE)=C	PLSQ4 85
218	MC(NE+1312)=0	PLSQ4 86
	GO TO 220	PLSQ4 87
219	MC(NE+1312)=XSIGNF(MTEMP,MC(NE+1312))	PLSQ4 88
220	CONTINUE	PLSQ4 89
B	TITL(9)=606023465151	PLSQ4 90
B	TITL(10)=252363252460	PLSQ4 91
255	ASSIGN 310 TO KK	PLSQ4 92
298	WRITE OUTPUT TAPE 6,906,TITL(9),TITL(10)	PLSQ4 93
	DO 308 NDEG=NFIRST,NLAST	PLSQ4 94
	NC=NCT(NDEG)	PLSQ4 95
	NB=NCOE(NDEG)+JN*NC	PLSQ4 96
	NE=NC+NB	PLSQ4 97
	NB=NB+1	PLSQ4 98
	WRITE OUTPUT TAPE 6, 908, NDEG, SSRED(NDEG,J), (C(I),I=NB,NE)	PLSQ4 99
	IF (NC-6) 305,308,305	PLSQ4 00
305	WRITE OUTPUT TAPE 6, 907	PLSQ4 01
308	CONTINUE	PLSQ4 02
	GO TO KK,(214,310)	PLSQ4 03
310	IF (NV-J) 335,335,155	PLSQ4 04
335	IF (NT(14)) 400,400,360	PLSQ4 05
360	CALL PUNCH(1)	PLSQ4 06
400	RETURN	PLSQ4 07
430	WRITE OUTPUT TAPE 6, 902, NDEG	PLSQ4 08
435	NLAST=NDEG-1	PLSQ4 09
440	CALL RESET(MR)	PLSQ4 10
	GO TO (450,152),MR	PLSQ4 11
450	IF (NT(29)) 400,400,455	PLSQ4 12
455	TIM(2)=TIMEF(0)-TIM(2)	PLSQ4 13
	GO TO 400	PLSQ4 14
509	IERR=0	PLSQ4 15
510	WRITE OUTPUT TAPE 6, 915, NDEG, (NVJ(J),J=1,NV)	PLSQ4 16
	WRITE OUTPUT TAPE 6, 916, (SSRED(NDEG,J),J=1,NV)	PLSQ4 17
	GO TO 435	PLSQ4 18
900	FORMAT(1H0/1H)	PLSQ4 19
902	FORMAT(1H0/7HODEGREEI2,33H, OVERFLOW COMPUTING COEFFICIENTS)	PLSQ4 20
905	FORMAT(2H1X12,2X6A6)	PLSQ4 21
906	FORMAT(/1H010X10HPCT.RED.IN/55H DEG SUM OF SQ. COEFFICI	PLSQ4 22
	ENTS, C(I),I=0,DEG 2A6///)	PLSQ4 23
907	FORMAT(1H)	PLSQ4 24

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SUBROUTINE PLSQ4
908 FORMAT(I4,F15.3,3X1P6E18.7/(22X6E18.7))          PLSQ4 25
911 FCRMAT(1H1)                                       PLSQ4 26
915 FORMAT(1H0/7H0DEGREEI2,38H, PER CENT REDUCTION IN SUM OF SQUARES//PLSQ4 27
      1I12,7I16)                                       PLSQ4 28
916 FCRMAT(1H /1P8E16.4)                               PLSQ4 29
917 FORMAT( 27H0 COEFFICIENT CHECK, UV*C-Y)          PLSQ4 30
918 FORMAT( 1H05X25HMAXIMUM ELEMENTS, DEGREEI2,8H THROUGH I2//4X1P8E16PLSQ4 31
      1.5)                                             PLSQ4 32
919 FORMAT(1H05X13HNORMS SQUARED//4X1P8E16.5)        PLSQ4 33
920 FCRMAT(/1H08X15HMAXIMUM ELEMENTIPE16.7,6X12HNORM SQUAREDE18.7) PLSQ4 34
921 FORMAT(1H0/7H0DEGREEI2,11H INV*UV-ID)          PLSQ4 35
922 FORMAT(1H0I3,1P8E16.5/(4X8E16.5))              PLSQ4 36
923 FORMAT(1H0/27H0 COEFFICIENT CHECK, UV*C-Y/5H0 DEG18X13HZERO ELEMENPLSQ4 37
      1TS)                                             PLSQ4 38
      END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)

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SUBROUTINE PLSQ4

00000	-346263303460	00	(STH)	BCD	1(STH)	00070	+002000000104	010	TRA	31A
00001	-342631433460	00	(FIL)	BCD	1(FIL)	00071	-063400402754	010	E)1	SXD C)G3,4
00002	-233144256060	00	TIME	BCD	1TIME	00072	+050000077451	010	29A	CLA NT-8
00003	+314565666060	00	INWV	BCD	1INWV	00073	+010000000104	010	29A1	TZE 31A
00004	-224643666060	00	SOLW	BCD	1SOLW	00074	+012000000076	010		TPL 30A
00005	-224643652560	00	SOLVE	BCD	1SOLVE	00075	+002000000104	010		TRA 31A
00006	-342426212434	00	(DFAD)	BCD	1(DFAD)	00076	-050000002542	010	30A	CAL 2)+3
00007	-342426444734	00	(DFMP)	BCD	1(DFMP)	00077	-063400402571	010		SXD 6)+4,4
00010	+234651512363	00	CORRCT	BCD	1CORRCT	00100	+007400400000	010		TSX (STH),4
00011	-046651316325	00	MWRITE	BCD	1MWRITE	00101	+000000002701	010		PZE 8)SF
00012	-345166633460	00	(RWT)	BCD	1(RWT)	00102	+007400400001	010		TSX (FIL),4
00013	-342426622234	00	(DFS8)	BCD	1(DFS8)	00103	-053400402571	010		LXD 6)+4,4
00014	-3462632223460	00	(STB)	BCD	1(STB)	00104	+050000077457	010	31A	CLA NFIRST
00015	-346643513460	00	(WLR)	BCD	1(WLR)	00105	+060100046677	010		STO NDEG
00016	-346362223460	00	(TSB)	BCD	1(TSB)	00106	-053400446677	010		LXD NDEG,4
00017	-345143513460	00	(RLR)	BCD	1(RLR)	00107	-063400402754	010		SXD C)G3,4
00020	-346243463460	00	(SLO)	BCD	1(SLO)	00110	-053400102540	010	32A	LXD 2)+1,1
00021	-076445233060	00	PUNCH	BCD	1PUNCH	00111	+050000077460	010		CLA NV
00022	-112562256360	00	RESET	BCD	1RESET	00112	+062200000125	010		STO 34A2
00023	+000000000000	00	\$	PZE		00113	-053400202540	010		LXD 2)+1,2
00024	+000000000000	00		PZE		00114	+056000250630	010	33A	LDQ Y+1,2
00025	+000000000000	00		PZE		00115	+026000250630	010		FMP Y+1,2
00026	-074362500460	00		BCD	1PLSQ4	00116	+024100060551	010		FDP B
00027	-063400100023	010		SXD	\$,1	00117	-060000147310	010		STQ X+1,1
00030	-063400200024	010		SXD	\$+1,2	00120	+050000147244	010	34A	CLA SSUM+1,1
00031	-063400400025	010		SXD	\$+2,4	00121	+030200147310	010		FSB X+1,1
00032	+050000000002	00	1A	CLA	2	00122	+060100147262	010		STO XX+1,1
00033	+060100002572	010		STO	6)+5	00123	+100001100124	010	34A1	TXI **+1,1,1
00034	-053400446677	010		LXD	NDEG,4	00124	+100055200125	010		TXI **+1,2,45
00035	+050000077457	010	23A	CLA	NFIRST	00125	-300000100114	010	34A2	TXL 33A,1
00036	+060100077457	010		STO	NFIRST	00126	+002000000133	010	35A	TRA 37A
00037	+050000002537	010	24A	CLA	2)	00127	+050000077456	010	36A	CLA NLAST
00040	+060100046676	010		STO	IERR	00130	+060100046677	010		STO NDEG
00041	+050000002537	010	25A	CLA	2)	00131	-053400446677	010		LXD NDEG,4
00042	+060100046534	010		STO	IER	00132	-063400402754	010		SXD C)G3,4
00043	+050000077451	010	26A	CLA	NT-8	00133	+050000077425	010	37A	CLA NT-28
00044	+040000002540	010		ADD	2)+1	00134	+010000000153	010	37A1	TZE 41A
00045	+060100002747	010		STO	1)+1	00135	+012000000137	010		TPL 38A
00046	+056000002747	010		LDQ	1)+1	00136	+002000000153	010		TRA 41A
00047	+050000002541	010		CLA	2)+2	00137	+050000002537	010	38A	CLA 2)
00050	+004000000052	010		TLQ	**2	00140	-063400402571	010		SXD 6)+4,4
00051	+056000002541	010		LDQ	2)+2	00141	+007400400002	010		TSX TIME,4
00052	+013100000000	00		XCA		00142	-053400402571	010		LXD 6)+4,4
00053	+060100002776	010		STO	NT9	00143	+060100046650	010		STO TIM-1
00054	-053400102776	010		LXD	NT9,1	00144	+002000000153	010	39A	TRA 41A
00055	-063400102756	010		SXD	C)G5,1	00145	+050000046677	010	40A	CLA NDEG
00056	+056000077441	010	27A	LDQ	NT-16	00146	+040000002540	010		ADD 2)+1
00057	+050000002541	010		CLA	2)+2	00147	+060100046677	010		STO NDEG
00060	+004000000062	010		TLQ	**2	00150	-053400146677	010		LXD NDEG,1
00061	+056000002541	010		LDQ	2)+2	00151	-063400102754	010		SXD C)G3,1
00062	+013100000000	00		XCA		00152	-053400402754	010	D)40A	LXD C)G3,4
00063	+060100002777	010		STO	NT17	00153	+0500004466746	010	41A	CLA NCT+1,4
00064	-053400202777	010		LXD	NT17,2	00154	+060100046700	010		STO NC
00065	-063400202752	010		SXD	C)G1,2	00155	-053400102540	010	42A	LXD 2)+1,1
00066	+002000200072	010	28A	TRA	28A+4,2	00156	+050000046700	010		CLA NC
00067	+002000000127	010		TRA	36A	00157	+062200000204	010		STD 44A2

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00160	+056000046700	010		LDQ	NC	00247	+050000002570	010	50A	CLA	61+3
00161	+020000002544	010		MPY	21+5	00250	+060100002751	010		STO	11+3
00162	+076700000021	00		ALS	17	00251	+056000003005	010		LDQ	L
00163	+C62200000211	010		STD	44A7	00252	+020000002544	010		MPY	21+5
00164	+050000046700	010		CLA	NC	00253	+076700000021	00		ALS	17
00165	+040200002570	010		SUB	61+3	00254	+040200002544	010		SUB	21+5
00166	+C62200000210	010		STD	44A6	00255	+040000002751	010		ADD	11+3
00167	+040000002544	010		ADD	21+5	00256	+060100002751	010		STO	11+3
00170	+062200000206	010		STD	44A4	00257	-053400402751	010		LXD	11+3,4
00171	+050000046700	010		CLA	NC	00260	+050000250630	010	51A	CLA	Y+1,2
00172	+062200000205	010		STD	44A3	00261	+060100077777	010		STO	41
			43A	BSS		00262	+050000250060	010		CLA	Y-359,2
00173	+050000160552	010	44A	CLA	B+1,1	00263	+060100077776	010		STO	41-1
00174	+060100077777	010		STO	41	00264	+050000077777	010		CLA	41
00175	+C50000154601	010		CLA	B-2024,1	00265	+060100477402	010		STO	A+1,4
00176	+C60100077776	010		STO	41-1	00266	+050000077776	010		CLA	41-1
00177	+050000077777	010		CLA	41	00267	+060100472661	010		STO	A-2384,4
00200	+060100177402	010		STO	A+1,1	00270	+100001400271	010	51A1	TXI	**1,4,1
00201	+050000077776	010		CLA	41-1	00271	+100001200272	010		TXI	**1,2,1
00202	+C60100172661	010		STO	A-2384,1	00272	-300000200260	010	51A2	TXL	51A,2
00203	+100001100204	010	44A1	TXI	**1,1,1	00273	+200000200274	010	51A4	TIX	**1,2
00204	-300000100173	010	44A2	TXL	44A,1	00274	+100000200275	010	51A5	TXI	**1,2
00205	+200000100206	010	44A3	TIX	**1,1	00275	-063400200272	010		SXD	51A2,2
00206	+100000100207	010	44A4	TXI	**1,1	00276	+200000200277	010	51A7	TIX	**1,2
00207	-063400100204	010		SXD	44A2,1	00277	+100001100300	010		TXI	**1,1,1
00210	+200000100211	010	44A6	TIX	**1,1	00300	-063400103007	010		SXD	J,1
00211	-300000100173	010	44A7	TXL	43A,1	00301	-300000100244	010	51A8	TXL	49A,1
00212	-053400102752	010		LXD	C1G1,1	00302	-053400402752	010		LXD	C1G1,4
00213	+002000100217	010	45A	TRA	45A+4,1	00303	+002000400307	010	52A	TRA	52A+4,4
00214	+002000000225	010		TRA	48A	00304	+002000000315	010		TRA	55A
00215	+002000000225	010		TRA	48A	00305	+002000000306	010		TRA	53A
00216	-063400402571	010	46A	SXD	61+4,4	00306	-063400402571	010	53A	SXD	61+4,4
00217	+007400400003	010		TSX	INVW,4	00307	+007400400004	010		TSX	SOLW,4
00220	-053400402571	010		LXD	61+4,4	00310	-053400402571	010		LXD	61+4,4
00221	+050000046676	010	47A	CLA	IERR	00311	+050000046676	010	54A	CLA	IERR
00222	+010000000331	010	47A1	TZE	59A	00312	+010000001302	010	54A1	TZE	D12I
00223	+012000000324	010		TPL	D140N	00313	+012000000325	010		TPL	57A
00224	+002000000331	010		TRA	59A	00314	+002000001302	010		TRA	D12I
00225	-053400202540	010	48A	LXD	21+1,2	00315	-063400402571	010	55A	SXD	61+4,4
00226	+050000046700	010		CLA	NC	00316	+007400400005	010		TSX	SOLVE,4
00227	+062200000272	010		STD	51A2	00317	-053400402571	010		LXD	61+4,4
00230	+050000046700	010		CLA	NC	00320	+050000046676	010	56A	CLA	IERR
00231	+040200002570	010		SUB	61+3	00321	+010000001457	010	56A1	TZE	D132
00232	+062200000276	010		STD	51A7	00322	+012000002436	010		TPL	D144P
00233	+040000002544	010		ADD	21+5	00323	+002000002466	010		TRA	277A
00234	+062200000274	010		STD	51A5	00324	-053400402752	010	D140N	LXD	C1G1,4
00235	+050000046700	010		CLA	NC	00325	+050000046676	010	57A	CLA	IERR
00236	+062200000273	010		STD	51A4	00326	+040200002540	010		SUB	21+1
00237	-053400102540	010		LXD	21+1,1	00327	+060100077456	010		STO	NLAST
00240	+050000077460	010		CLA	NV	00330	+002000002443	010	58A	TRA	271A
00241	+062200000301	010		STD	51A8	00331	+050000077433	010	59A	CLA	NT-22
00242	-075400100000	00		PXD	0,1	00332	+010000000451	010	59A1	TZE	64A
00243	+060100003007	010		STO	J	00333	+012000000335	010		TPL	60A
00244	+050000003007	010	49A	CLA	J	00334	+002000000451	010		TRA	64A
00245	+040000046700	010		ADD	NC	00335	-053400202543	010	60A	LXD	21+4,2
00246	+060100003005	010		STO	L	00336	-063400202773	010		SXD	C1202,2

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00337	+050000046700	010	CLA NC	00427	+060100172662	010	STO A-2383,1
00340	+062200000450	010	STD 63A4	00430	+050000177403	010	63A CLA A+2,1
00341	-075400200000	00	PXD 0,2	00431	+060100077777	010	STO 4)
00342	+060100003011	010	STO I	00432	+050000172662	010	CLA A-2383,1
00343	+050000003011	010	61A CLA I	00433	+060100077776	010	STO 4)-1
00344	+060100002751	010	STO 1)+3	00434	+050000077777	010	CLA 4)
00345	+056000003011	010	LDQ I	00435	+060100477457	010	STO A+46,4
00346	+020000002544	010	MPY 2)+5	00436	+050000077776	010	CLA 4)-1
00347	+076700000021	00	ALS 17	00437	+060100472736	010	STO A-2339,4
00350	+040200002544	010	SUB 2)+5	00440	+100055100441	010	63A1 TXI **1,1,45
00351	+040000002751	010	ADD 1)+3	00441	+100001400442	010	TXI **1,4,1
00352	+060100002751	010	STO 1)+3	00442	+100001200443	010	TXI **1,2,1
00353	-053400402751	010	LXD 1)+3,4	00443	-300000200376	010	63A2 TXL 62A,2
00354	-063400402763	010	SXD C)101,4	00444	-053400102773	010	LXD C)202,1
00355	+050000003011	010	CLA I	00445	+100001100446	010	TXI **1,1,1
00356	+060100002751	010	STO 1)+3	00446	-063400102773	010	SXD C)202,1
00357	+056000003011	010	LDQ I	00447	-063400103011	010	SXD I,1
00360	+020000002544	010	MPY 2)+5	00450	-300000100343	010	63A4 TXL 61A,1
00361	+076700000021	00	ALS 17	00451	+050000077424	010	64A CLA NT-29
00362	+040200002544	010	SUB 2)+5	00452	+040200046677	010	SUB NDEG
00363	+040000002751	010	ADD 1)+3	00453	+010000000455	010	64A1 TZE 65A
00364	+060100002751	010	STO 1)+3	00454	+012000000461	010	TPL D)111
00365	-053400202751	010	LXD 1)+3,2	00455	+050000046534	010	65A CLA IER
00366	-063400202764	010	SXD C)103,2	00456	+010000000460	010	65A1 TZE 66A
00367	-053400103011	010	LXD I,1	00457	+012000000461	010	TPL D)111
00370	-063400102772	010	SXD C)201,1				66A BSS
00371	+050000046700	010	CLA NC	00460	+007400400010	010	TSX CORRCT,4
00372	+062200000443	010	STD 63A2	00461	-053400102754	010	D)111 LXD C)G3,1
00373	-053400402764	010	D)70R LXD C)103,4	00462	+050000146726	010	67A CLA NCOE+1,1
00374	-053400202772	010	D)30R LXD C)201,2	00463	+060100003001	010	STO NS
00375	-053400102763	010	D)10R LXD C)101,1	00464	-053400203001	010	LXD NS,2
00376	+050000177403	010	62A CLA A+2,1	00465	-063400202755	010	SXD C)G4,2
00377	+060100077777	010	STO 4)	00466	-050000077462	010	68A CAL 4)-205
00400	+050000172662	010	CLA A-2383,1	00467	+060000077462	010	STZ 4)-205
00401	+060100077776	010	STO 4)-1	00470	-010000000471	010	69A TNZ 70A
00402	+050000000006	010	CLA (DFAD)	00471	-053400402540	010	70A LXD 2)+1,4
00403	+060100000002	00	STO 2	00472	-063400402766	010	SXD C)105,4
00404	-100000477457	010	STR A+46,4	00473	+056000077460	010	LDQ NV
00405	+000000472736	010	PZE A-2339,4	00474	+020000002544	010	MPY 2)+5
00406	+050000077777	010	CLA 4)	00475	+076700000021	00	ALS 17
00407	+060100002751	010	STO 1)+3	00476	+062200000565	010	STD 75A7
00410	+050000077776	010	CLA 4)-1	00477	+050000046700	010	CLA NC
00411	+060100002750	010	STO 1)+2	00500	+062200000561	010	STD 75A4
00412	+056000002547	010	LDQ 3)+1	00501	-053400202766	010	D)613 LXD C)105,2
00413	-060000077775	010	STQ 4)-2	00502	-053400402755	010	D)413 LXD C)G4,4
00414	+056000002546	010	LDQ 3)	00503	-053400102540	010	71A LXD 2)+1,1
00415	-060000077774	010	STQ 4)-3	00504	+050000046700	010	CLA NC
00416	+050000000007	010	CLA (DFMP)	00505	+062200000563	010	STD 75A5
00417	+060100000002	00	STO 2	00506	+056000046700	010	LDQ NC
00420	-100000002751	010	STR 1)+3	00507	+020000002544	010	MPY 2)+5
00421	+000000002750	010	PZE 1)+2	00510	+076700000021	00	ALS 17
00422	+056000002572	010	LDQ 6)+5	00511	+062200000557	010	STD 75A2
00423	-060000000002	00	STQ 2	00512	+056000046700	010	LDQ NC
00424	+050000077777	010	CLA 4)	00513	+020000002544	010	MPY 2)+5
00425	+060100177403	010	STO A+2,1	00514	+076700000021	00	ALS 17
00426	+050000077776	010	CLA 4)-1	00515	+062200000560	010	STD 75A3

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00516	+050000003001	010	72A	CLA NS	00605	+007400077451	010	TSX NT-8
00517	+040000002540	010		ADD 2)+1	00606	-053400402571	010	LXD 6)+4,4
00520	+060100003001	010		STO NS	00607	+050000046677	010	83A CLA NDEG
00521	-053400403001	010		LXD NS,4	00610	+040200077424	010	SUB NT-29
00522	-063400402755	010		SXD C)G4,4	00611	+010000001205	010	83A1 TZE 129A
00523	+050000002551	010	73A	CLA 3)+3	00612	+012000001205	010	TPL 129A
00524	+060100077777	010		STO 4)	00613	+002000100617	010	84A TRA 84A+4,1
00525	+050000002550	010		CLA 3)+2	00614	+002000000636	010	TRA 89A
00526	+060100077776	010		STO 4)-1	00615	+002000000617	010	TRA 85A
00527	+050000077777	010		CLA 4)	00616	+002000001205	010	TRA 129A
00530	+060100465652	010		STO C)+1,4	00617	+050000002541	010	85A CLA 2)+2
00531	+050000077776	010		CLA 4)-1	00620	+060100003000	010	STO NT12
00532	+060100463212	010		STO C-1311,4	00621	-053400203000	010	LXD NT12,2
			74A	BSS	00622	-063400202760	010	SXD C)G7,2
00533	+056000177402	010	75A	LDQ A)+1,1	00623	-050000002542	010	86A CAL 2)+3
00534	-060000077775	010		STQ 4)-2	00624	-063400402571	010	SXD 6)+4,4
00535	+056000172661	010		LDQ A-2384,1	00625	+007400400000	010	TSX (STH),4
00536	-060000077774	010		STQ 4)-3	00626	+000000002620	010	PZE 8)SP
00537	+050000000007	010		CLA (DFMP)	00627	-053400402571	010	LXD 6)+4,4
00540	+060100000002	00		STO 2	00630	+056000046677	010	87A LDQ NDEG
00541	-100000250630	010		STR Y)+1,2	00631	-100000000000	00	STR
00542	+000000250600	010		PZE Y-359,2	00632	-063400402571	010	SXD 6)+4,4
00543	+050000000006	010		CLA (DFAD)	00633	+007400400001	010	TSX (FIL),4
00544	+060100000002	00		STO 2	00634	-053400402571	010	LXD 6)+4,4
00545	-100000465652	010		STR C)+1,4	00635	+002000000657	010	88A TRA 94A
00546	+000000463212	010		PZE C-1311,4	00636	+050000046677	010	89A CLA NDEG
00547	+056000002572	010		LDQ 6)+5	00637	+040200077446	010	SUB NT-11
00550	-060000000002	00		STQ 2	00640	+010000000642	010	89A1 TZE 90A
00551	+050000077777	010		CLA 4)	00641	+012000000653	010	TPL 93A
00552	+060100465652	010		STO C)+1,4	00642	+050000002540	010	90A CLA 2)+1
00553	+050000077776	010		CLA 4)-1	00643	+060100003000	010	STO NT12
00554	+060100463212	010		STO C-1311,4	00644	-053400203000	010	LXD NT12,2
00555	+100055100556	010	75A1	TXI *+1,1,45	00645	-063400202760	010	SXD C)G7,2
00556	+100001200557	010		TXI *+1,2,1	00646	-050000002541	010	91A CAL 2)+2
00557	-300000100533	010	75A2	TXL 75A,1	00647	-063400402571	010	SXD 6)+4,4
00560	+200000100561	010	75A3	TIX *+1,1	00650	+007400400012	010	TSX (RWT),4
00561	+200000200562	010	75A4	TIX *+1,2	00651	-053400402571	010	LXD 6)+4,4
00562	+100001100563	010		TXI *+1,1,1	00652	+002000000657	010	92A TRA 94A
00563	-300000100516	010	75A5	TXL 72A,1	00653	+050000002543	010	93A CLA 2)+4
00564	+100055200565	010		TXI *+1,2,45	00654	+060100003000	010	STO NT12
00565	-300000200503	010	75A7	TXL 71A,2	00655	-053400203000	010	LXD NT12,2
00566	-050000077462	010	76A	CAL 4)-205	00656	-063400202760	010	SXD C)G7,2
00567	+060000077462	010		STZ 4)-205	00657	+050000002550	010	94A CLA 3)+2
00570	-010000002424	010	77A	TNZ 268A	00660	+060100047247	010	STO XNORM
00571	-053400102756	010	01119	LXD C)G5,1	00661	+050000002550	010	95A CLA 3)+2
00572	+002000100576	010	78A	TRA 78A+4,1	00662	+060100047246	010	STO XNORM-1
00573	+002000000576	010		TRA 79A	00663	-053400402540	010	96A LXD 2)+1,4
00574	+002000000576	010		TRA 79A	00664	-063400402764	010	SXD C)103,4
00575	+002000001205	010		TRA 129A	00665	+050000046700	010	CLA NC
00576	-050000002552	010	79A	CAL 3)+4	00666	+062200001052	010	STD 109A3
00577	+060200046665	010		SLW TITL-8	00667	-053400402540	010	LXD 2)+1,4
00600	-050000002553	010	80A	CAL 3)+5	00670	-063400402774	010	SXD C)203,4
00601	+060200046664	010		SLW TITL-9	00671	+050000046700	010	CLA NC
00602	-063400402571	010	81A	SXD 6)+4,4	00672	+062200001032	010	STD 105A2
00603	+007400400011	010	82A	TSX MWRITE,4	00673	+050000046700	010	CLA NC
00604	+007400077401	010		TSX A	00674	+040200002570	010	SUB 6)+3

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00675	+062200001103	010		STD 112A6		00764	+060100266006	010		STO T-89,2
00676	+040000002544	010		ADD 2)+5		00765	+100055400766	010	100A1	TXI **1,4,45
00677	+062200001101	010		STD 112A4		00766	+100001100767	010		TXI **1,1,1
00700	+050000046700	010		CLA NC		00767	-300000400743	010	100A2	TXL 100A,4
00701	+062200001033	010		STD 105A3		00770	+200000400771	010	100A3	TIX **1,4
00702	-053400402540	010		LXD 2)+1,4		00771	+200000100772	010	100A4	TIX **1,1
00703	-063400402770	010		SXD C)107,4		00772	+100001400773	010		TXI **1,4,1
00704	+050000046700	010		CLA NC		00773	+100001200774	010		TXI **1,2,1
00705	+062200000771	010		STD 100A4		00774	-063400202753	010		SXD C)G2,2
00706	-053400202540	010		LXD 2)+1,2		00775	-300000200733	010	100A5	TXL 98A,2
00707	-063400202757	010		SXD C)G6,2		00776	-063400102770	010	E11L	SXD C)107,1
00710	+050000046700	010		CLA NC		00777	-053400402757	010		LXD C)G6,4
00711	+062200001113	010		STD 112A7		01000	+050000466140	010	101A	CLA T+1,4
00712	-053400202540	010	97A	LXD 2)+1,2		01001	+060100077777	010		STO 4)
00713	-063400202767	010		SXD C)106,2		01002	+050000466006	010		CLA T-89,4
00714	+056000046700	010		LDQ NC		01003	+060100077776	010		STO 4)-1
00715	+020000002544	010		MPY 2)+5		01004	+050000000013	010		CLA (DFSB)
00716	+076700000021	00		ALS 17		01005	+060100000002	00		STO 2
00717	+062200000767	010		STD 100A2		01006	-100000002555	010		STR 3)+7
00720	+056000046700	010		LDQ NC		01007	+000000002554	010		PZE 3)+6
00721	+020000002544	010		MPY 2)+5		01010	+056000002572	010		LDQ 6)+5
00722	+076700000021	00		ALS 17		01011	-060000000002	00		STQ 2
00723	+062200000770	010		STD 100A3		01012	+050000077777	010		CLA 4)
00724	-053400102540	010		LXD 2)+1,1		01013	+060100466140	010		STO T+1,4
00725	-063400102753	010		SXD C)G2,1		01014	+050000077776	010		CLA 4)-1
00726	+050000046700	010		CLA NC		01015	+060100466006	010		STO T-89,4
00727	+062200000775	010		STD 100A5		01016	-053400202760	010		LXD C)G7,2
00730	-053400402767	010	D)711	LXD C)106,4		01017	+002000201023	010	102A	TRA 102A+4,2
00731	-053400202753	010	D)311	LXD C)G2,2		01020	+002000001054	010		TRA D)31S
00732	-053400102770	010	D)111	LXD C)107,1		01021	+002000001040	010		TRA D)21P
00733	+050000002551	010	98A	CLA 3)+3		01022	-050000002541	010	103A	CAL 2)+2
00734	+060100077777	010		STO 4)		01023	-063400402571	010		SXD 6)+4,4
00735	+050000002550	010		CLA 3)+2		01024	+007400400014	010		TSX (STB),4
00736	+060100077776	010		STO 4)-1		01025	-053400402571	010		LXD 6)+4,4
00737	+050000077777	010		CLA 4)					104A	BSS
00740	+060100266140	010		STO T+1,2		01026	-053400202774	010	D)21N	LXD C)203,2
00741	+050000077776	010		CLA 4)-1		01027	+056000277402	010	105A	LDQ A+1,2
00742	+060100266006	010		STO T-89,2		01030	-100000000000	00		STR
			99A	BSS		01031	+100001201032	010	105A1	TXI **1,2,1
00743	+0560000460552	010	100A	LDQ 8)+1,4		01032	-300000201027	010	105A2	TXL 105A,2
00744	-060000077775	010		STQ 4)-2		01033	+200000201034	010	105A3	TIX **1,2
00745	+0560000454601	010		LDQ 8-2024,4		01034	-063400402571	010	107A	SXD 6)+4,4
00746	-060000077774	010		STQ 4)-3		01035	+007400400015	010		TSX (WLR),4
00747	+0500000000007	010		CLA (DFMP)		01036	-053400402571	010		LXD 6)+4,4
00750	+0601000000002	00		STO 2		01037	+002000001041	010		TRA 108A
00751	-100000177402	010		STR A+1,1		01040	-053400202774	010	D)21P	LXD C)203,2
00752	+000000172661	010		PZE A-2384,1		01041	-053400402540	010	108A	LXD 2)+1,4
00753	+0500000000006	010		CLA (DFAD)		01042	+050000046700	010		CLA NC
00754	+0601000000002	00		STO 2		01043	+062200001051	010		STD 109A2
00755	-100000266140	010		STR T+1,2		01044	-053400102764	010	D)11Q	LXD C)103,1
00756	+000000266006	010		PZE T-89,2		01045	+050000466140	010	109A	CLA T+1,4
00757	+056000002572	010		LDQ 6)+5		01046	+060100177402	010		STO A+1,1
00760	-0600000000002	00		STQ 2		01047	+100001101050	010	109A1	TXI **1,1,1
00761	+050000077777	010		CLA 4)		01050	+100001401051	010		TXI **1,4,1
00762	+060100266140	010		STO T+1,2		01051	-300000401045	010	109A2	TXL 109A,4
00763	+050000077776	010		CLA 4)-1		01052	+200000101053	010	109A3	TIX **1,1

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01053	+002000001056	010		TRA 110A	01142	+076700000021	00	ALS 17
01054	-053400102764	010	D)315	LXD C)1G3,1	01143	+062200001172	010	STD 125A4
01055	-053400202774	010	D)215	LXD C)203,2	01144	+050000046700	010	CLA NC
01056	-053400402540	010	110A	LXD 2)1,4	01145	+040200002570	010	SUB 6)1+3
01057	+050000046700	010		CLA NC	01146	+062200001171	010	STD 125A3
01060	+062200001076	010		STD 112A2	01147	+040000002544	010	ADD 2)1+5
01061	+050000466140	010	111A	CLA T)1,4	01150	+062200001167	010	STD 125A1
01062	+076000000003	00		SSP	01151	+050000046700	010	CLA NC
01063	+060100002747	010		STO 1)1+1	01152	+062200001163	010	STD 123A3
01064	+050000002747	010		CLA 1)1+1	01153	-050000002541	010	121A CAL 2)1+2
01065	+0560000047247	010		LDQ XNORM	01154	-063400402571	010	SXD 6)1+4,4
01066	+004000001070	010		TLQ **2	01155	+007400400016	010	TSX (TSB),4
01067	+0500000047247	010		CLA XNORM	01156	-053400402571	010	LXD 6)1+4,4
01070	+0601000047247	010		STO XNORM				122A BSS
01071	+056000466140	010	112A	LDQ T)1,4	01157	-100000000000	00	123A STR
01072	+026000466140	010		FMP T)1,4	01160	-060000477402	010	STQ A)1,4
01073	+0300000047246	010		FAD XNORM-1	01161	+100001401162	010	123A1 TXI **1,4,1
01074	+0601000047246	010		STO XNORM-1	01162	-300000401157	010	123A2 TXL 123A,4
01075	+100001401076	010	112A1	TXI **1,4,1	01163	+200000401164	010	123A3 TIX **1,4
01076	-300000401061	010	112A2	TXL 111A,4	01164	-063400402571	010	125A SXD 6)1+4,4
01077	+100055101100	010		TXI **1,1,45	01165	+007400400017	010	TSX (RLR),4
01100	-063400102764	010		SXD C)103,1	01166	-053400402571	010	LXD 6)1+4,4
01101	+100000201102	010	112A4	TXI **1,2	01167	+100000401170	010	125A1 TXI **1,4
01102	-063400201032	010		SXD 105A2,2	01170	-063400401162	010	SXD 123A2,4
01103	+200000201104	010	112A6	TIX **1,2	01171	+200000401172	010	125A3 TIX **1,4
01104	-063400202774	010		SXD C)203,2	01172	-300000401153	010	125A4 TXL 121A,4
01105	-053400402770	010		LXD C)107,4	01173	-050000002541	010	126A CAL 2)1+2
01106	+100055401107	010		TXI **1,4,45	01174	+007400400012	010	TSX (RWT),4
01107	-063400402770	010		SXD C)107,4	01175	-050000002542	010	127A CAL 2)1+3
01110	-053400202757	010		LXD C)G6,2	01176	+007400400000	010	TSX (STH),4
01111	+100001201112	010		TXI **1,2,1	01177	+000000002632	010	PZE 8)SO
01112	-063400202757	010		SXD C)G6,2				128A BSS
01113	-300000200712	010	112A7	TXL 97A,2	01200	+007400400020	010	TSX (SLO),4
01114	-053400102756	010		LXD C)G5,1	01201	+000000047250	010	PZE XNORM+1
01115	+002000101121	010	113A	TRA 113A+4,1	01202	+000000000002	00	PZE 2
01116	+002000001121	010		TRA 114A	01203	+007400400001	010	TSX (FIL),4
01117	+002000001175	010		TRA 127A	01204	-053400402755	010	D)427 LXD C)G4,4
01120	+002000001204	010		TRA D)427	01205	+050000046677	010	129A CAL NDEG
01121	-050000002556	010	114A	CAL 3)1+8	01206	+040200077446	010	SUB NT-11
01122	+060200046665	010		SLW TITL-8	01207	+010000001211	010	129A1 TZE 130A
01123	-050000002557	010	115A	CAL 3)1+9	01210	+012000001302	010	TPL D)12I
01124	+060200046664	010		SLW TITL-9	01211	+050000077452	010	130A CLA NT-7
			116A	BSS	01212	+010000001300	010	130A1 TZE 139A
01125	+007400400011	010	117A	TSX MWRITE,4	01213	+012000001215	010	TPL 131A
01126	+007400077401	010		TSX A	01214	+002000001300	010	TRA 139A
01127	+007400002543	010		TSX 2)1+4	01215	-053400202540	010	131A LXD 2)1+1,2
01130	-053400202760	010		LXD C)G7,2	01216	-063400202757	010	SXD C)G6,2
01131	+002000201134	010	118A	TRA 118A+3,2	01217	+050000046700	010	CLA NC
01132	+002000001175	010		TRA 127A	01220	+062200001277	010	STD 138A4
01133	-050000002541	010	119A	CAL 2)1+2	01221	-075400200000	00	PXD 0,2
01134	+007400400012	010		TSX (RWT),4	01222	+060100003011	010	STO I
01135	-053400402540	010	120A	LXD 2)1+1,4	01223	-053400203011	010	132A LXD I,2
01136	+050000046700	010		CLA NC	01224	-063400202763	010	SXD C)101,2
01137	+062200001162	010		STD 123A2	01225	-053400402540	010	LXD 2)1+1,4
01140	+056000046700	010		LDQ NC	01226	+050000003011	010	CLA I
01141	+020000002544	010		MPY 2)1+5	01227	+062200001272	010	STD 138A2

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01230	+050000002570	010	CLA	6)+3	01317	+062200001356	010	STD	147A1
01231	+060100002751	010	STO	1)+3	01320	+050000046700	010	CLA	NC
01232	+056000003011	010	LDQ	I	01321	+062200001347	010	STD	146A3
01233	+020000002544	010	MPY	2)+5	01322	-053400446677	010	LXD	NDEG,4
01234	+076700000021	00	ALS	17	01323	-063400402771	010	SXD	C)108,4
01235	+040200002544	010	SUB	2)+5	01324	-053400102540	010	LXD	2)+1,1
01236	+040000002751	010	ADD	1)+3	01325	-063400102753	010	SXD	C)G2,1
01237	+060100002751	010	STO	1)+3	01326	+050000077460	010	CLA	NV
01240	-053400102751	010	LXD	1)+3,1	01327	+062200001365	010	STD	147A4
01241	-063400102764	010	SXD	C)103,1	01330	-053400202771	010	D)62J	LXD C)108,2
01242	-053400102763	010	LXD	C)101,1	01331	-053400402763	010	D)42J	LXD C)101,4
01243	+050000177402	010	133A	CLA MA+1,1	01332	+050000002550	010	143A	CLA 3)+2
01244	+076000000003	00	SSP		01333	+060100247224	010		STO SSRED+1,2
01245	-053400202757	010	LXD	C)G6,2				144A	BSS
01246	+040200247100	010	SUB	MSAV+1,2	01334	+050000003002	010	145A	CLA NE
01247	+040200447100	010	SUB	MSAV+1,4	01335	+040000002540	010		ADD 2)+1
01250	+060100065653	010	STO	MTEMP	01336	+060100003002	010		STO NE
01251	+050000065653	010	134A	CLA MTEMP	01337	-053400103002	010		LXD NE,1
01252	+010000001254	010	134A1	TZE 135A	01340	-063400102761	010		SXD C)G8,1
01253	+012000001257	010		TPL 137A	01341	+056000165652	010	146A	LDQ C+1,1
01254	+050000002537	010	135A	CLA 2)	01342	+026000450630	010		FMP Y+1,4
01255	+060100177402	010		STO MA+1,1	01343	+030000247224	010		FAD SSRED+1,2
01256	+002000001263	010	136A	TRA 138A	01344	+060100247224	010		STO SSRED+1,2
01257	+050000065653	010	137A	CLA MTEMP	01345	+100001401346	010	146A1	TXI **1,4,1
01260	+056000177402	010		LDQ MA+1,1	01346	-300000401334	010	146A2	TXL 145A,4
01261	+076300000000	00		LLS	01347	+200000401350	010	146A3	TIX **1,4
01262	+060100177402	010		STO MA+1,1	01350	+050000247224	010	147A	CLA SSRED+1,2
01263	+050000177402	010	138A	CLA A+1,1	01351	-053400102753	010		LXD C)G2,1
01264	-053400202764	010		LXD C)103,2	01352	+030200147310	010		FSB X+1,1
01265	+060100277402	010		STO A+1,2	01353	+024100147262	010		FDP XX+1,1
01266	+100055101267	010	138A1	TXI **1,1,4,5	01354	+026000002560	010		FMP 3)+10
01267	+100001401270	010		TXI **1,4,1	01355	+060100247224	010		STO SSRED+1,2
01270	+100001201271	010		TXI **1,2,1	01356	+100000401357	010	147A1	TXI **1,4
01271	-063400202764	010		SXD C)103,2	01357	-063400401346	010		SXD 146A2,4
01272	-300000401243	010	138A2	TXL 133A,4	01360	+200000401361	010	147A3	TIX **1,4
01273	-053400102757	010		LXD C)G6,1	01361	+100010201362	010		TXI **1,2,8
01274	+100001101275	010		TXI **1,1,1	01362	-063400202771	010		SXD C)108,2
01275	-063400102757	010		SXD C)G6,1	01363	+100001101364	010		TXI **1,1,1
01276	-063400103011	010		SXD I,1	01364	-063400102753	010		SXD C)G2,1
01277	-300000101223	010	138A4	TXL 132A,1	01365	-300000101332	010	147A4	TXL 143A,1
			139A	BSS	01366	-053400146677	010	148A	LXD NDEG,1
01300	+007400400021	010	140A	TSX PUNCH,4	01367	-053400402540	010		LXD 2)+1,4
01301	+007400002543	010		TSX 2)+4	01370	-063400402775	010		SXD C)204,4
01302	-053400102754	010	D)12I	LXD C)G3,1	01371	+050000077460	010		CLA NV
01303	+050000146726	010	141A	CLA NCDE+1,1	01372	+062200001446	010		STD 153A2
01304	+060100003002	010		STO NE	01373	+050000147224	010	149A	CLA SSRED+1,1
01305	-053400203002	010		LXD NE,2	01374	+010000001427	010	149A1	TZE 152A
01306	-063400202761	010		SXD C)G8,2	01375	+012000001403	010		TPL E)2P
01307	-053400202540	010	142A	LXD 2)+1,2	01376	-063400402753	010	149A2	SXD C)G2,4
01310	-063400202763	010		SXD C)101,2	01377	-053400202753	010		LXD C)G2,2
01311	+050000046700	010		CLA NC	01400	-075400400000	00		PXD 0,4
01312	+062200001346	010		STD 146A2	01401	+060100003007	010		STO J
01313	+050000046700	010		CLA NC	01402	+002000002472	010		TRA 278A
01314	+040200002570	010		SUB 6)+3	01403	-063400102771	010	E)2P	SXD C)108,1
01315	+062200001360	010		STD 147A3	01404	+050000147224	010	150A	CLA SSRED+1,1
01316	+040000002544	010		ADD 2)+5	01405	+030200002560	010		FSB 3)+10

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01406	+010000001411	010	150A1	TZE	150A2	01475	-063400202753	010	SXD	C)G2,2
01407	+012000001416	010		TPL	150A3	01476	+050000003007	010	159A	CLA J
01410	+002000001423	010		TRA	151A	01477	+060100003010	010		STO JN
01411	-063400402753	010	150A2	SXD	C)G2,4	01500	+050000003007	010	160A	CLA J
01412	-053400202753	010		LXD	C)G2,2	01501	+040000002540	010		ADD 2) +1
01413	-075400400000	00		PXD	0,4	01502	+060100003007	010		STO J
01414	+060100003007	010		STO	J	01503	-053400403007	010		LXD J,4
01415	+002000001454	010		TRA	155A	01504	-063400402753	010		SXD C)G2,4
01416	-063400402753	010	150A3	SXD	C)G2,4	01505	-050000002542	010	161A	CAL 2) +3
01417	-053400202753	010		LXD	C)G2,2	01506	-063400402571	010		SXD 6) +4,4
01420	-075400400000	00		PXD	0,4	01507	+007400400000	010		TSX (STH),4
01421	+060100003007	010		STO	J	01510	+000000002732	010		PZE 8)S9
01422	+002000002472	010		TRA	278A	01511	-053400402571	010		LXD 6) +4,4
01423	+050000147224	010	151A	CLA	SSRED+1,1	01512	+056000446662	010	162A	LDQ NVJ+1,4
01424	+030200147225	010		FSB	SSRED+2,1	01513	-100000000000	00		STR
01425	+010000001442	010	151A1	TZE	153A	01514	+050000002570	010	163A	CLA 6) +3
01426	+012000001442	010		TPL	153A	01515	+060100002751	010		STO 1) +3
01427	+050000046677	010	152A	CLA	NDEG	01516	+056000003007	010		LDQ J
01430	+040200077457	010		SUB	NFIRST	01517	+020000002542	010		MPY 2) +3
01431	+010000001442	010	152A1	TZE	153A	01520	+076700000021	00		ALS 17
01432	+012000001434	010		TPL	E)2U	01521	+040200002542	010		SUB 2) +3
01433	+002000001442	010		TRA	153A	01522	+040000002751	010		ADD 1) +3
01434	-063400102771	010	E)2U	SXD	C)108,1	01523	+060100002751	010		STO 1) +3
01435	-063400402753	010	152A2	SXD	C)G2,4	01524	-053400102751	010		LXD 1) +3,1
01436	-053400202753	010		LXD	C)G2,2	01525	-053400202540	010		LXD 2) +1,2
01437	-075400400000	00		PXD	0,4	01526	+056000146646	010	164A	LDQ TIT+1,1
01440	+060100003007	010		STO	J	01527	-100000000000	00		STR
01441	+002000002472	010		TRA	278A	01530	+100001101531	010	164A1	TXI **1,1,1
			153A	BSS		01531	+100001201532	010		TXI **1,2,1
01442	+100010101443	010	153A1	TXI	**1,1,8	01532	-300006201526	010	164A2	TXL 164A,2,6
01443	-063400102771	010		SXD	C)108,1	01533	-063400402571	010	166A	SXD 6) +4,4
01444	+100001401445	010		TXI	**1,4,1	01534	+007400400001	010		TSX (FIL),4
01445	-063400402775	010		SXD	C)204,4	01535	-053400402571	010		LXD 6) +4,4
01446	-300000401373	010	153A2	TXL	149A,4	01536	-053400102756	010		LXD C)G5,1
01447	+050000046677	010	154A	CLA	NDEG	01537	+002000101543	010	167A	TRA 167A+4,1
01450	+040200077456	010		SUB	NLAST	01540	+002000001552	010		TRA 170A
01451	+010000001456	010	154A1	TZE	D)532	01541	+002000001543	010		TRA 168A
01452	+012000001456	010		TPL	D)532	01542	+002000002054	010		TRA 206A
01453	+002000000145	010		TRA	40A	01543	-050000002542	010	168A	CAL 2) +3
01454	+050000046677	010	155A	CLA	NDEG	01544	-063400402571	010		SXD 6) +4,4
01455	+060100077456	010		STO	NLAST	01545	+007400400000	010		TSX (STH),4
01456	-053400402752	010	D)532	LXD	C)G1,4	01546	+000000002661	010		PZE 8)SL
01457	-053400102762	010	D)132	LXD	C)G9,1	01547	+007400400001	010		TSX (FIL),4
01460	+050000077425	010	156A	CLA	NT-28	01550	-053400402571	010		LXD 6) +4,4
01461	+010000001472	010	156A1	TZE	158A	01551	+002000001560	010	169A	TRA 171A
01462	+012000001464	010		TPL	157A	01552	-050000002542	010	170A	CAL 2) +3
01463	+002000001472	010		TRA	158A	01553	-063400402571	010		SXD 6) +4,4
01464	+050000002537	010	157A	CLA	2)	01554	+007400400000	010		TSX (STH),4
01465	-063400402571	010		SXD	6) +4,4	01555	+000000002605	010		PZE 8)SR
01466	+007400400002	010		TSX	TIME,4	01556	+007400400001	010		TSX (FIL),4
01467	-053400402571	010		LXD	6) +4,4	01557	-053400402571	010		LXD 6) +4,4
01470	+030200046650	010		FSB	TIM-1	01560	-053400277457	010	171A	LXD NFIRST,2
01471	+060100046650	010		STO	TIM-1	01561	-063400202754	010		SXD C)G3,2
01472	+050000002537	010	158A	CLA	2)	01562	+050000077456	010		CLA NLAST
01473	+060100003007	010		STO	J	01563	+062200001776	010		STD 192A2
01474	-053400203007	010		LXD	J,2	01564	-075400200000	00		PXD 0,2

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01565	+060100046677	010		STO NDEG	01654	+056000260552	010	181A	LDQ B+1,2
01566	+050000246746	010	172A	CLA NCT+1,2	01655	-060000077775	010		STQ 4)-2
01567	+060100046700	010		STO NC	01656	+056000254601	010		LDQ B-2024,2
01570	+056000003010	010	173A	LDQ JN	01657	-060000077774	010		STQ 4)-3
01571	+020000046700	010		MPY NC	01660	+050000000007	010		CLA (DFMP)
01572	+076700000021	00		ALS 17	01661	+060100000002	00		STO 2
01573	+040000246726	010		ADD NCDE+1,2	01662	-100000465652	010		STR C+1,4
01574	+060100003003	010		STO NB	01663	+000000463212	010		PZE C-1311,4
01575	+050000002550	010	174A	CLA 3)+2	01664	+050000000006	010		CLA (OFAD)
01576	+060100277402	010		STO A+1,2	01665	+060100000002	00		STO 2
01577	+050000002550	010	175A	CLA 3)+2	01666	-100000166140	010		STR T+1,1
01600	+060100277372	010		STO A-7,2	01667	+000000166006	010		PZE T-89,1
01601	-053400102540	010	176A	LXD 2)+1,1	01670	+056000002572	010		LDQ 6)+5
01602	-063400102765	010		SXD C)104,1	01671	-060000000002	00		STQ 2
01603	+056000046700	010		LDQ NC	01672	+050000077777	010		CLA 4)
01604	+020000002544	010		MPY 2)+5	01673	+060100166140	010		STO T+1,1
01605	+076700000021	00		ALS 17	01674	+050000077776	010		CLA 4)-1
01606	+062200001677	010		STD 181A2	01675	+060100166006	010		STO T-89,1
01607	+056000046700	010		LDQ NC	01676	+100055201677	010	181A1	TXI **1,2,45
01610	+020000002544	010		MPY 2)+5	01677	-300000201647	010	181A2	TXL 180A,2
01611	+076700000021	00		ALS 17	01700	+200000201701	010	181A3	TXI **1,2
01612	+062200001700	010		STD 181A3	01701	+050000166140	010	182A	CLA T+1,1
01613	-053400202540	010		LXD 2)+1,2	01702	+060100077777	010		STO 4)
01614	-063400202757	010		SXD C)G6,2	01703	+050000166006	010		CLA T-89,1
01615	+050000046700	010		CLA NC	01704	+060100077776	010		STO 4)-1
01616	+062200001743	010		STD 184A2	01705	+050000000013	010		CLA (DFSB)
01617	+050000002570	010		CLA 6)+3	01706	+060100000002	00		STO 2
01620	+060100002751	010		STO 1)+3	01707	-053400402763	010		LXD C)101,4
01621	+056000003007	010		LDQ J	01710	-100000450630	010		STR Y+1,4
01622	+020000002544	010		MPY 2)+5	01711	+000000450060	010		PZE Y-359,4
01623	+076700000021	00		ALS 17	01712	+056000002572	010		LDQ 6)+5
01624	+040200002544	010		SUB 2)+5	01713	-060000000002	00		STQ 2
01625	+040000002751	010		ADD 1)+3	01714	+050000077777	010		CLA 4)
01626	+060100002751	010		STO 1)+3	01715	+060100166140	010		STO T+1,1
01627	-053400402751	010		LXD 1)+3,4	01716	+050000077776	010		CLA 4)-1
01630	-063400402763	010		SXD C)101,4	01717	+060100166006	010		STO T-89,1
01631	-053400102757	010	D)33C	LXD C)G6,1	01720	+050000166140	010	183A	CLA T+1,1
01632	-053400202765	010	D)23C	LXD C)104,2	01721	+076000000003	00		SSP
01633	+050000003003	010	177A	CLA NB	01722	+060100002747	010		STO 1)+1
01634	+060100003002	010		STO NE	01723	+050000002747	010		CLA 1)+1
01635	-053400403002	010		LXD NE,4	01724	-053400402754	010		LXD C)G3,4
01636	-063400402761	010		SXD C)G8,4	01725	+056000477402	010		LDQ A+1,4
01637	+050000002551	010	178A	CLA 3)+3	01726	+004000001730	010		TLQ **2
01640	+060100077777	010		STO 4)	01727	+050000477402	010		CLA A+1,4
01641	+050000002550	010		CLA 3)+2	01730	+060100477402	010		STO A+1,4
01642	+060100077776	010		STO 4)-1	01731	+056000166140	010	184A	LDQ T+1,1
01643	+050000077777	010		CLA 4)	01732	+026000166140	010		FMP T+1,1
01644	+060100166140	010		STO T+1,1	01733	+030000477372	010		FAD A-7,4
01645	+050000077776	010		CLA 4)-1	01734	+060100477372	010		STO A-7,4
01646	+060100166006	010		STO T-89,1	01735	+100001201736	010	184A1	TXI **1,2,1
			179A	BSS	01736	+100001101737	010		TXI **1,1,1
			180A	CLA NE	01737	-063400102757	010		SXD C)G6,1
01647	+050000003002	010		ADD 2)+1	01740	-053400402763	010		LXD C)101,4
01650	+040000002540	010		STO NE	01741	+100001401742	010		TXI **1,4,1
01651	+060100003002	010		STO NE	01742	-063400402763	010		SXD C)101,4
01652	-053400403002	010		LXD NE,4	01743	-300000101633	010	184A2	TXL 177A,1
01653	-063400402761	010		SXD C)G8,4					

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01744	-053400402756	010		LXD C)G5,4	02033	-100000000000	00	STR
01745	+002000401751	010	185A	TRA 185A+4,4	02034	+100001102035	010	201A1 TXI **1,1,1
01746	+002000001751	010		TRA 186A	02035	-300000102032	010	201A2 TXL 201A,1
01747	+002000001772	010		TRA 192A	02036	-063400402571	010	203A SXD 6)++4,4
01750	+002000001772	010		TRA 192A	02037	+007400400001	010	TSX (FIL),4.
01751	-050000002542	010	186A	CAL 2)++3	02040	-053400402571	010	LXD 6)++4,4
01752	-063400402571	010		SXD 6)++4,4	02041	-050000002542	010	204A CAL 2)++3
01753	+007400400000	010		TSX (STH),4	02042	-063400402571	010	SXD 6)++4,4
01754	+000000002612	010		PZE 8)SQ	02043	+007400400000	010	TSX (STH),4
01755	-053400402571	010		LXD 6)++4,4	02044	+000000002745	010	PZE 8)SQ
01756	+056000046677	010	187A	LDQ NDEG	02045	+007400400001	010	TSX (FIL),4
01757	-100000000000	00		STR	02046	-053400402571	010	LXD 6)++4,4
01760	-053400202540	010	188A	LXD 2)++1,2	02047	+002000402053	010	205A TRA 205A+4,4
01761	+0500000046700	010		CLA NC	02050	+002000002060	010	TRA 207A
01762	+062200001766	010		STD 189A2	02051	+002000002052	010	TRA D)53P
01763	+056000266140	010	189A	LDQ T++1,2	02052	-053400102756	010	D)53P LXD C)G5,1
01764	-100000000000	00		STR	02053	-053400402753	010	D)43P LXD C)G2,4
01765	+100001201766	010	189A1	TXI **1,2,1	02054	+050000077452	010	206A CLA NT-7
01766	-300000201763	010	189A2	TXL 189A,2	02055	+010000002117	010	206A1 TZE 214A
01767	-063400402571	010	191A	SXD 6)++4,4	02056	+012000002163	010	TPL 227A
01770	+007400400001	010		TSX (FIL),4	02057	+002000002117	010	TRA 214A
01771	-053400402571	010		LXD 6)++4,4	02060	-050000002542	010	207A CAL 2)++3
			192A	BSS	02061	-063400402571	010	SXD 6)++4,4
01772	-053400202754	010		LXD C)G3,2	02062	+007400400000	010	TSX (STH),4
01773	+100001201774	010	192A1	TXI **1,2,1	02063	+000000002732	010	PZE 8)SQ
01774	-063400202754	010		SXD C)G3,2	02064	-053400402571	010	LXD 6)++4,4
01775	-063400246677	010		SXD NDEG,2	02065	-053400102753	010	LXD C)G2,1
01776	-300000201566	010	192A2	TXL 172A,2	02066	+056000146662	010	208A LDQ NVJ++1,1
01777	-050000002542	010	193A	CAL 2)++3	02067	-100000000000	00	STR
02000	-063400402571	010		SXD 6)++4,4	02070	+050000002570	010	209A CLA 6)++3
02001	+007400400000	010		TSX (STH),4	02071	+060100002751	010	STO 1)++3
02002	+000000002653	010		PZE 8)SM	02072	+056000003007	010	LDQ J
02003	-053400402571	010		LXD 6)++4,4	02073	+020000002542	010	MPY 2)++3
02004	+056000077457	010	194A	LDQ NFIRST	02074	+076700000021	00	ALS 17
02005	-100000000000	00		STR	02075	+040200002542	010	SUB 2)++3
02006	+056000077456	010		LDQ NLAST	02076	+040000002751	010	ADD 1)++3
02007	-100000000000	00		STR	02077	+060100002751	010	STO 1)++3
02010	-053400177457	010	195A	LXD NFIRST,1	02100	-053400202751	010	LXD 1)++3,2
02011	+050000077456	010		CLA NLAST	02101	-053400102540	010	LXD 2)++1,1
02012	+062200002016	010		STD 196A2	02102	+056000246664	010	210A LDQ TIT++1,2
02013	+056000177402	010	196A	LDQ A++1,1	02103	-100000000000	00	STR
02014	-100000000000	00		STR	02104	+100001202105	010	210A1 TXI **1,2,1
02015	+100001102016	010	196A1	TXI **1,1,1	02105	+100001102106	010	TXI **1,1,1
02016	-300000102013	010	196A2	TXL 196A,1	02106	-300006102102	010	210A2 TXL 210A,1,6
02017	-063400402571	010	198A	SXD 6)++4,4	02107	-063400402571	010	212A SXD 6)++4,4
02020	+007400400001	010		TSX (FIL),4	02110	+007400400001	010	TSX (FIL),4
02021	-053400402571	010		LXD 6)++4,4	02111	-053400402571	010	LXD 6)++4,4
02022	-050000002542	010	199A	CAL 2)++3	02112	+050000077452	010	213A CLA NT-7
02023	-063400402571	010		SXD 6)++4,4	02113	+010000002115	010	213A1 TZE D)53T
02024	+007400400000	010		TSX (STH),4	02114	+012000002124	010	TPL 217A
02025	+000000002640	010		PZE 8)SN	02115	-053400102756	010	D)53T LXD C)G5,1
02026	-053400402571	010		LXD 6)++4,4	02116	-053400402753	010	D)43T LXD C)G2,4
02027	-053400177457	010	200A	LXD NFIRST,1	02117	+050000046535	010	214A CLA BLANK
02030	+050000077456	010		CLA NLAST	02120	+060100046665	010	STO TITL-8
02031	+062200002035	010		STD 201A2	02121	+050000046535	010	215A CLA BLANK
02032	+056000177372	010	201A	LDQ A-7,1	02122	+060100046664	010	STO TITL-9

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02123	+002000002263	010	216A	TRA 244A	02212	+040000447122	010	ADD MSCA-1,4
02124	+050000002535	010	217A	CLA 5)	02213	+040200247100	010	SUB MSAV+1,2
02125	+060100003006	010		STO KK	02214	+060100065653	010	STO MTEMP
02126	-050000002561	010	218A	CAL 3)+11	02215	+050000065653	010	233A CLA MTEMP
02127	+060200046665	010		SLW TITL-8	02216	+010000002236	010	233A1 TZE 237A
02130	-050000002562	010	219A	CAL 3)+12	02217	+012000002221	010	TPL 234A
02131	+060200046664	010		SLW TITL-9	02220	+002000002236	010	TRA 237A
02132	+002000002266	010	220A	TRA D)44D	02221	+050000065653	010	234A CLA MTEMP
02133	-050000002542	010	221A	CAL 2)+3	02222	+056000165652	010	LDQ MC+1,1
02134	+007400400000	010		TSX (STH),4	02223	+076300000000	00	LLS
02135	+000000002732	010		PZE 8)59	02224	+060100165652	010	STO MC+1,1
02136	-053400102753	010		LXD C)G2,1	02225	+050000163212	010	235A CLA MC-1311,1
02137	+056000146662	010	222A	LDQ NVJ+1,1	02226	+076000000003	00	SSP
02140	-100000000000	00		STR	02227	+040000447122	010	ADD MSCA-1,4
02141	+050000002570	010	223A	CLA 6)+3	02230	+040200247100	010	SUB MSAV+1,2
02142	+060100002751	010		STO 1)+3	02231	+060100065653	010	STO MTEMP
02143	+056000003007	010		LDQ J	02232	+050000065653	010	236A CLA MTEMP
02144	+020000002542	010		MPY 2)+3	02233	+010000002240	010	236A1 TZE 238A
02145	+076700000021	00		ALS 17	02234	+012000002243	010	TPL E)48
02146	+040200002542	010		SUB 2)+3	02235	+002000002240	010	TRA 238A
02147	+040000002751	010		ADD 1)+3	02236	+050000002537	010	237A CLA 2)
02150	+060100002751	010		STO 1)+3	02237	+060100165652	010	STO MC+1,1
02151	-053400202751	010		LXD 1)+3,2	02240	+050000002537	010	238A CLA 2)
02152	-053400402540	010		LXD 2)+1,4	02241	+060100163212	010	STO MC-1311,1
02153	+056000246664	010	224A	LDQ TIT+1,2	02242	+002000002250	010	239A TRA 241A
02154	-100000000000	00		STR	02243	-063400202757	010	E)48 SXD C)G6,2
02155	+100001202156	010	224A1	TXI **+1,2,1	02244	+050000065653	010	240A CLA MTEMP
02156	+100001402157	010		TXI **+1,4,1	02245	+056000163212	010	LDQ MC-1311,1
02157	-300006402153	010	224A2	TXL 224A,4,6	02246	+076300000000	00	LLS
			226A	BSS	02247	+060100163212	010	STO MC-1311,1
				TSX (FIL),4			241A	BSS
02160	+007400400001	010		LXD C)G5,1	02250	+100001202251	010	241A1 TXI **+1,2,1
02161	-053400102756	010	D)542	LXD C)G2,4	02251	-300000202203	010	241A2 TXL 231A,2
02162	-053400402753	010	D)442	LXD NFIRST,2	02252	-053400202754	010	LXD C)G3,2
02163	-053400277457	010	227A	SXD C)G3,2	02253	+100001202254	010	TXI **+1,2,1
02164	-063400202754	010		CLA NLAST	02254	-063400202754	010	SXD C)G3,2
02165	+050000077456	010		STD 241A4	02255	-300000202167	010	241A4 TXL 228A,2
02166	+062200002255	010		CLA NCT+1,2	02256	-050000002563	010	242A CAL 3)+13
02167	+050000246746	010	228A	STO NC	02257	+060200046665	010	SLW TITL-8
02170	+060100046700	010		LDQ JN	02260	-050000002564	010	243A CAL 3)+14
02171	+056000003010	010	229A	MPY NC	02261	+060200046664	010	SLW TITL-9
02172	+020000046700	010		ALS 17	02262	-053400102756	010	D)14C LXD C)G5,1
02173	+076700000021	00		ADD NCOE+1,2	02263	+050000002536	010	244A CLA 5)+1
02174	+040000246726	010		STO NE	02264	+060100003006	010	STO KK
02175	+060100003002	010		LXD NE,1	02265	+002000002267	010	TRA 245A
02176	-053400103002	010		SXD C)G8,1	02266	-053400402753	010	D)44D LXD C)G2,4
02177	-063400102761	010		LXD 2)+1,2	02267	-050000002542	010	245A CAL 2)+3
02200	-053400202540	010	230A	CLA NC	02270	-063400402571	010	SXD 6)+4,4
02201	+050000046700	010		STD 241A2	02271	+007400400000	010	TSX (STH),4
02202	+062200002251	010		CLA NE	02272	+000000002727	010	PZE 8)5A
02203	+050000003002	010	231A	ADD 2)+1	02273	-053400402571	010	LXD 6)+4,4
02204	+040000002540	010		STO NE	02274	+056000046665	010	246A LDQ TITL-8
02205	+060100003002	010		LXD NE,1	02275	-100000000000	00	STR
02206	-053400103002	010		SXD C)G8,1	02276	+056000046664	010	LDQ TITL-9
02207	-063400102761	010		CLA MC+1,1	02277	-100000000000	00	STR
02210	+050000165652	010	232A	SSP	02300	-063400402571	010	SXD 6)+4,4
02211	+076000000003	00						

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02301	+007400400001	010		TSX (FIL),4			
02302	-053400402571	010		LXD 6)+4,4			
02303	-053400277457	010	247A	LXD NFRST,2			
02304	-063400202754	010		SXD C)G3,2			
02305	+050000077456	010		CLA NLAST			
02306	+062200002402	010		STO 260A2			
02307	-075400200000	00		PXD 0,2			
02310	+060100046677	010		STO NDEG			
02311	+050000077457	010		CLA NFRST			
02312	+060100002751	010		STO 1)+3			
02313	+056000003007	010		LDQ J			
02314	+020000002545	010		MPY 2)+6			
02315	+076700000021	00		ALS 17			
02316	+040200002545	010		SUB 2)+6			
02317	+040000002751	010		ADD 1)+3			
02320	+060100002751	010		STO 1)+3			
02321	-053400102751	010		LXD 1)+3,1			
02322	-063400102771	010		SXD C)108,1			
02323	-053400402754	010	D)44E	LXD C)G3,4			
02324	+050000446746	010	248A	CLA NCT+1,4			
02325	+060100046700	010		STO NC			
02326	+056000003010	010	249A	LDQ JN			
02327	+020000046700	010		MPY NC			
02330	+076700000021	00		ALS 17			
02331	+040000446726	010		ADD NC0E+1,4			
02332	+060100003003	010		STO NB			
02333	+050000046700	010	250A	CLA NC			
02334	+040000003003	010		ADD NB			
02335	+060100003002	010		STO NE			
02336	-053400203002	010		LXD NE,2			
02337	-063400202761	010		SXD C)G8,2			
02340	+050000003003	010	251A	CLA NB			
02341	+040000002540	010		ADD 2)+1			
02342	+060100003003	010		STO NB			
02343	-050000002542	010	252A	CAL 2)+3			
02344	-063400402571	010		SXD 6)+4,4			
02345	+007400400000	010		TSX (STH),4			
02346	+000000002707	010		PZE 8)SC			
02347	-053400402571	010		LXD 6)+4,4			
02350	+056000046677	010	253A	LDQ NDEG			
02351	-100000000000	00		STR			
02352	+056000147224	010		LDQ SSRED+1,1			
02353	-100000000000	00		STR			
02354	-053400203003	010	254A	LXD NB,2			
02355	+050000003002	010		CLA NE			
02356	+062200002362	010		STO 255A2			
02357	+056000265652	010	255A	LDQ C+1,2			
02360	-100000000000	00		STR			
02361	+100001202362	010	255A1	TXI **1,2,1			
02362	-300000202357	010	255A2	TXL 255A,2			
02363	-063400402571	010	257A	SXD 6)+4,4			
02364	+007400400001	010		TSX (FIL),4			
02365	-053400402571	010		LXD 6)+4,4			
02366	+050000046700	010	258A	CLA NC			
02367	+040200002542	010		SUB 2)+3			
02370	+010000002377	010	258A1	TZE 260A			
02371	-050000002542	010	259A	CAL 2)+3			
02372	-063400402571	010		SXD 6)+4,4			
02373	+007400400000	010		TSX (STH),4			
02374	+000000002710	010		PZE 8)SB			
02375	+007400400001	010		TSX (FIL),4			
02376	-053400402571	010		LXD 6)+4,4			
			260A	BSS			
02377	+100001402400	010	260A1	TXI **1,4,1			
02400	-063400446677	010		SXD NDEG,4			
02401	+100001102402	010		TXI **1,1,1			
02402	-300000402324	010	260A2	TXL 248A,4			
02403	+002000003006	010	261A	TRA KK			
02404	+050000077460	010	262A	CLA NV			
02405	+040200003007	010		SUB J			
02406	+010000002410	010	262A1	TZE 263A			
02407	+012000001476	010		TPL 159A			
02410	+050000077444	010	263A	CLA NT-13			
02411	+010000002416	010	263A1	TZE D)54N			
02412	+012000002414	010		TPL 264A			
02413	+002000002416	010		TRA D)54N			
			264A	BSS			
02414	+007400400021	010	265A	TSX PUNCH,4			
02415	+007400002540	010		TSX 2)+1			
02416	-053400102762	010	D)54N	LXD C)G9,1			
02417	-053400402752	010	D)44N	LXD C)G1,4			
02420	-053400100023	010	266A	LXD \$,1			
02421	-053400200024	010		LXD \$+1,2			
02422	-053400400025	010		LXD \$+2,4			
02423	+002000400001	00		TRA 1,4			
02424	-050000002542	010	268A	CAL 2)+3			
02425	-063400402571	010		SXD 6)+4,4			
02426	+007400400000	010		TSX (STH),4			
02427	+000000002743	010		PZE 8)S6			
02430	-053400402571	010		LXD 6)+4,4			
02431	+056000046677	010	269A	LDQ NDEG			
02432	-100000000000	00		STR			
02433	-063400402571	010		SXD 6)+4,4			
02434	+007400400001	010		TSX (FIL),4			
02435	-053400402571	010		LXD 6)+4,4			
02436	-053400402775	010	D)44P	LXD C)204,4			
02437	+050000046677	010	270A	CLA NDEG			
02440	+040200002540	010		SUB 2)+1			
02441	+060100077456	010		STO NLAST			
02442	-053400402752	010	D)44Q	LXD C)G1,4			
02443	-063400402571	010	271A	SXD 6)+4,4			
02444	+007400400022	010	272A	TSX RESET,4			
02445	+007400003004	010		TSX MR			
02446	-053400402571	010		LXD 6)+4,4			
02447	-053400103004	010		LXD MR,1			
02450	-063400102762	010		SXD C)G9,1			
02451	+002000102454	010	273A	TRA 273A+3,1			
02452	+002000001460	010		TRA 156A			
02453	+050000077425	010	274A	CLA NT-28			
02454	+010000002420	010	274A1	TZE 266A			
02455	+012000002457	010		TPL 275A			
02456	+002000002420	010		TRA 266A			

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02457	+050000002537	010	275A	CLA 2)	02547	+200400000000	00	OCT	+200400000000
02460	-063400402571	010		SXD 6)+4,4	02550	+000000000000	00	OCT	+000000000000
02461	+007400400002	010		TSX TIME,4	02551	+000000000000	00	OCT	+000000000000
02462	-053400402571	010		LXD 6)+4,4	02552	+314565255162	00	OCT	+314565255162
02463	+030200046650	010		FSB TIM-1	02553	+256060606060	00	OCT	+256060606060
02464	+060100046650	010		STO TIM-1	02554	+146000000000	00	OCT	+146000000000
02465	+002000002420	010	276A	TRA 266A	02555	+201400000000	00	OCT	+201400000000
02466	+050000002537	010	277A	CLA 2)	02556	-246554314565	00	OCT	-246554314565
02467	+060100046676	010		STO IERR	02557	-003124606060	00	OCT	-003124606060
02470	-053400102771	010	D)54U	LXD C)108,1	02560	+207620000000	00	OCT	+207620000000
02471	-053400402775	010	D)44U	LXD C)204,4	02561	-206062232143	00	OCT	-206062232143
02472	-050000002542	010	278A	CAL 2)+3	02562	+252460606060	00	OCT	+252460606060
02473	-063400402571	010		SXD 6)+4,4	02563	-206023465151	00	OCT	-206023465151
02474	+007400400000	010		TSX (STH),4	02564	+252363252460	00	OCT	+252363252460
02475	+000000002700	010		PZE 8)SJ	02565	+233000000000	00	OCT	+233000000000
02476	-053400402571	010		LXD 6)+4,4	02566	+000000377777	00	OCT	+000000377777
02477	+056000046677	010	279A	LDQ NDEG	02567	+000000000000	00	OCT	+000000000000
02500	-100000000000	00		STR	02570	+000001000000	00	OCT	+000001000000
02501	-053400202540	010	280A	LXD 2)+1,2	02571	+000000000000	00	OCT	+000000000000
02502	+0500000077460	010		CLA NV	02572	+000000000000	00	OCT	+000000000000
02503	+062200002507	010		STD 281A2	02573	-236234606060	00	BCD	1TS)
02504	+056000246662	010	281A	LDQ NVJ+1,2	02574	+254325442545	00	RCD	1ELEMEN
02505	-100000000000	00		STR	02575	+307125514660	00	BCD	1HZERO
02506	+100001202507	010	281A1	TXI **+1,2,1	02576	+270110670103	00	BCD	1G18X13
02507	-300000202504	010	281A2	TXL 281A,2	02577	+053000602425	00	BCD	15HO DE
02510	-063400402571	010	283A	SXD 6)+4,4	02600	-255423407061	00	BCD	1V=C-Y/
02511	+007400400001	010		TSX (FIL),4	02601	+252342736064	00	BCD	1ECK, U
02512	-053400402571	010		LXD 6)+4,4	02602	+254563602330	00	BCD	1ENT CH
02513	-050000002542	010	284A	CAL 2)+3	02603	+252626312331	00	BCD	1EFFICI
02514	-063400402571	010		SXD 6)+4,4	02604	+073000602346	00	BCD	17HO CO
02515	+007400400000	010		TSX (STH),4	02605	-340130006102	00	8)SR	BCD 1(1HO/2
02516	+000000002664	010		PZE 8)SK	02606	+053434606060	00	BCD	15))
02517	-053400402571	010		LXD 6)+4,4	02607	-271025010633	00	BCD	1X8E16.
02520	-053400146677	010	285A	LXD NDEG,1	02610	+063305617404	00	BCD	16.5/(4
02521	-053400202540	010		LXD 2)+1,2	02611	-330147102501	00	BCD	1,1P8E1
02522	+050000077460	010		CLA NV	02612	-340130003103	00	8)SQ	BCD 1(1HO)13
02523	+062200002530	010		STD 286A2	02613	+243460606060	00	BCD	1D)
02524	+056000147224	010	286A	LDQ SSRED+1,1	02614	-255464654031	00	BCD	1V*UV-I
02525	-100000000000	00		STR	02615	+013060603145	00	BCD	11H IN
02526	+100010102527	010	286A1	TXI **+1,1,8	02616	+252531027301	00	BCD	1EE12,1
02527	+100001202530	010		TXI **+1,2,1	02617	+300024252751	00	BCD	1HODEGR
02530	-300000202524	010	286A2	TXL 286A,2	02620	-340130006107	00	8)SP	BCD 1(1HO/7
02531	-063400402571	010	288A	SXD 6)+4,4	02621	+073460606060	00	BCD	17)
02532	+007400400001	010		TSX (FIL),4	02622	+252425011033	00	BCD	1EDE18.
02533	-053400402571	010		LXD 6)+4,4	02623	-206250642151	00	BCD	1 SQUAR
02534	+002000002437	010	289A	TRA 270A	02624	+023045465144	00	BCD	12HNORM
02535	+002000002133	010	5)	TRA 221A	02625	+330773066701	00	BCD	1.7,6X1
02536	+002000002404	010		TRA 262A	02626	-230147250106	00	BCD	1T1PE16
02537	+000000000000	00	2)	OCT +000000000000	02627	+254325442545	00	BCD	1ELEMEN
02540	+000001000000	00		OCT +000001000000	02630	-273144644460	00	BCD	1XIMUM
02541	+000003000000	00		OCT +000003000000	02631	-270105304421	00	BCD	1X15HMA
02542	+000006000000	00		OCT +000006000000	02632	-346101300010	00	8)SO	BCD 1(/1H08
02543	+000002000000	00		OCT +000002000000	02633	+010633053460	00	BCD	116.5)
02544	+000055000000	00		OCT +000055000000	02634	+046701471025	00	BCD	14X1P8E
02545	+000010000000	00		OCT +000010000000	02635	+215125246161	00	BCD	1ARED//
02546	+145000000000	00	3)	OCT +145000000000	02636	-046260625064	00	BCD	1MS SQU

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02637	+010330454651	00		BCD 113HNOR			
02640	-340130000567	00	8)SN	BCD 1(1H05X	02727	-346101300001	00 8)SA
02641	+330534606060	00		BCD 1.5)	02730	+063460606060	00
02642	+014710250106	00		BCD 11P8E16	02731	+027302670621	00
02643	+310261610467	00		BCD 1I2//4X	02732	-340230016731	00 8)S9
02644	+305146642730	00		BCD 1HROUGH	02733	+312545636234	00
02645	+027310306063	00		BCD 12,8H T	02734	-062526263123	00
02646	+275125256231	00		BCD 1GREESI	02735	-233145276023	00
02647	-236273602425	00		BCD 1TS, DE	02736	-202346444764	00
02650	+254325442545	00		BCD 1ELEMEN	02737	+255126434666	00
02651	-273144644460	00		BCD 1XIMUM	02740	+033073604665	00
02652	-270205304421	00		BCD 1X25HMA	02741	+252531027303	00
02653	-346001300005	00	8)SM	BCD 1(1H05	02742	+300024252751	00
02654	-007034606060	00		BCD 1-Y)	02743	-340130006107	00 8)S6
02655	-336064655423	00		BCD 1, UV*C	02744	+306034606060	00
02656	-202330252342	00		BCD 1 CHECK	02745	-340130006101	00 8)S4
02657	+312331254563	00		BCD 1ICIENT			
02660	-202346252626	00		BCD 1 COEFF			
02661	-346002073000	00	8)SL	BCD 1(27H0			
02662	+043460606060	00		BCD 14)			
02663	-071025010633	00		BCD 1P8E16.			
02664	-340130606101	00	8)SK	BCD 1(1H /1			
02665	+010634606060	00		BCD 116)			
02666	+310102730731	00		BCD 1I12,7I			
02667	+215125626161	00		BCD 1ARES//			
02670	-062660625064	00		BCD 1OF SQU			
02671	-056062644460	00		BCD 1N SUM			
02672	-233146456031	00		BCD 1TION I			
02673	-205125246423	00		BCD 1 REDUC			
02674	-116023254563	00		BCD 1R CENT			
02675	+103073604725	00		BCD 18H, PE			
02676	+252531027303	00		BCD 1EEI2,3			
02677	+300024252751	00		BCD 1HODEGR			
02700	-340130006107	00	8)SJ	BCD 1(1H0/7			
02701	-340130013460	00	8)SF	BCD 1(1H1)			
02702	+073434606060	00		BCD 17))			
02703	-270625011033	00		BCD 1X6E18.			
02704	+330761740202	00		BCD 1.7/(22			
02705	+014706250110	00		BCD 11P6E18			
02706	+053303730367	00		BCD 15.3,3X			
02707	-343104732601	00	8)SC	BCD 1(I4,F1			
02710	-340130603460	00	8)SB	BCD 1(1H)			
02711	-216134606060	00		BCD 1//)			
02712	+276002210661	00		BCD 1G 2A6/			
02713	+311300732425	00		BCD 1I=0,DE			
02714	-202374313473	00		BCD 1 C(I),			
02715	+254563627360	00		BCD 1ENTS,			
02716	+252626312331	00		BCD 1EFFICI			
02717	-206060602346	00		BCD 1 CO			
02720	-206250336060	00		BCD 1 SQ.			
02721	-226444604626	00		BCD 1SUM OF			
02722	-206060606060	00		BCD 1			
02723	+306060242527	00		BCD 1H DEG			
02724	+333145610505	00		BCD 1.IN/55			
02725	+236333512524	00		BCD 1CT.RED			
02726	+006701003047	00		BCD 1OX10HP			

	SUBROUTINE MWRITE(B,NN)	
	SUBROUTINE MWRITE(B,NN)	MWRITE 1
	DIMENSION B1(12620),NCT(16),B2(22),TITL(12),NVJ(8)	MWRITE 2
D	DIMENSION B(45,45)	MWRITE 3
	COMMON B1,NCT,B2,NDEG,IERR,TITL,NVJ	MWRITE 4
	NC=NCT(NDEG)	MWRITE 5
	IF (1-NN) 1,40,40	MWRITE 6
	1 IF (NC-6) 2,2,4	MWRITE 7
	2 ASSIGN 23 TO KJ	MWRITE 8
	GO TO 12	MWRITE 9
	4 IF (NC-22) 5,5,10	MWRITE10
	5 ASSIGN 21 TO KJ	MWRITE11
	GO TO 12	MWRITE12
	10 ASSIGN 22 TO KJ	MWRITE13
	12 DO 35 JBEG=1,NC,7	MWRITE14
	JEND=JBEG+6	MWRITE15
	IF (JEND-NC) 20,20,15	MWRITE16
	15 JEND=NC	MWRITE17
	20 GO TO KJ, (21,22,23)	MWRITE18
	21 ASSIGN 23 TO KJ	MWRITE19
	22 WRITE OUTPUT TAPE 6, 900	MWRITE20
	GO TO 25	MWRITE21
	23 WRITE OUTPUT TAPE 6, 901	MWRITE22
	ASSIGN 21 TO KJ	MWRITE23
	25 WRITE OUTPUT TAPE 6, 902, NDEG, TITL(9),TITL(10),JBEG,JEND, (J,J=	MWRITE24
	1JBEG,JEND)	MWRITE25
	WRITE OUTPUT TAPE 6, 903	MWRITE26
	DO 30 I=1,NC	MWRITE27
	30 WRITE OUTPUT TAPE 6, 904, I, (B(I,J),J=JBEG,JEND)	MWRITE28
	35 CONTINUE	MWRITE29
	GO TO 50	MWRITE30
	40 WRITE OUTPUT TAPE 6,905,NDEG,TITL(9),TITL(10)	MWRITE31
	N1=NC-1	MWRITE32
	DO 45 I=1,NC,N1	MWRITE33
	45 WRITE OUTPUT TAPE 6,906,I,(B(I,J),J=1,NC)	MWRITE34
	WRITE OUTPUT TAPE 6,907,(B(I,I),I=1,NC)	MWRITE35
	50 RETURN	MWRITE36
	900 FORMAT (1H1)	MWRITE37
	901 FORMAT(1HO/1HO)	MWRITE38
	902 FORMAT(7H DEGREE I2,3X2A6,13X7HCOLUMNS I3,8H THROUGH I3//I16,6I18)	MWRITE39
	903 FORMAT(1H)	MWRITE40
	904 FORMAT(I4,1P7E18.7)	MWRITE41
	905 FORMAT(1HO/1HO/7H DEGREE I2,3X2A6,3X19HFIRST AND LAST ROWS//)	MWRITE42
	906 FORMAT(1HO I3,1P7E18.7/(4X7E18.7))	MWRITE43
	907 FORMAT(1HO/18HODIAGONAL ELEMENTS//((4X1P7E18.7))	MWRITE44
	END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)	

SUBROUTINE MWRITE(B,NN)

00000	-346263303460	00	(STH)	BCD 1(STH)	00070	+002000000073	010	TRA 27A
00001	-342631433460	00	(FIL)	BCD 1(FIL)	00071	+050000000430	010 26A	CLA NC
00002	+000000000000	00	\$	PZE	00072	+060100000434	010	STO JEND
00003	+000000000000	00		PZE	00073	+002000000432	010 27A	TRA KJ
00004	+000000000000	00		PZE	00074	+050000000337	010 28A	CLA 5)+3
00005	-046651316325	00		BCD 1MWRITE	00075	+060100000432	010	STO KJ
00006	-063400100002	010		SXD \$,1	00076	-050000000342	010 29A	CAL 2)+1
00007	-063400200003	010		SXD \$+1,2	00077	+007400400000	010	TSX (STH),4
00010	-063400400004	010		SXD \$+2,4	00100	+000000000420	010	PZE 8)S4
00011	+050000400001	00		CLA 1,4	00101	+007400400001	010	TSX (FIL),4
00012	+040000000421	010		ADD 9)	00102	+002000000111	010 30A	TRA 33A
00013	+062100000321	010		STA 1A+193	00103	-050000000342	010 31A	CAL 2)+1
00014	+062100000275	010		STA 1A+173	00104	+007400400000	010	TSX (STH),4
00015	+062100000206	010		STA 1A+118	00105	+000000000417	010	PZE 8)S5
00016	+050000400002	00		CLA 2,4	00106	+007400400001	010	TSX (FIL),4
00017	+062100000026	010		STA 1A+6	00107	+050000000340	010 32A	CLA 5)+4
00020	+050000000002	00	1A	CLA 2	00110	+060100000432	010	STO KJ
00021	+060100000352	010		STO 6)+5	00111	-050000000342	010 33A	CAL 2)+1
00022	-053400146677	010		LXD NDEG,1	00112	+007400400000	010	TSX (STH),4
00023	+050000146746	010	14A	CLA NCT+1,1	00113	+000000000415	010	PZE 8)S6
00024	+060100000430	010		STO NC	00114	+056000046677	010 34A	LDQ NDEG
00025	+050000000341	010	15A	CLA 2)	00115	-100000000000	00	STR
00026	+040200000000	00		SUB NN	00116	+056000046665	010	LDQ TITL-8
00027	+010000000227	010	15A1	TZE 49A	00117	-100000000000	00	STR
00030	+012000000227	010		TPL 49A	00120	+056000046664	010	LDQ TITL-9
00031	-063400100426	010	E11	SXD C)GO,1	00121	-100000000000	00	STR
00032	+050000000430	010	16A	CLA NC	00122	+056000000435	010	LDQ JBEG
00033	+040200000342	010		SUB 2)+1	00123	-100000000000	00	STR
00034	+010000000036	010	16A1	TZE 17A	00124	+056000000434	010	LDQ JEND
00035	+012000000041	010		TPL 19A	00125	-100000000000	00	STR
00036	+050000000334	010	17A	CLA 5)	00126	-053400200435	010 35A	LXD JBEG,2
00037	+060100000432	010		STO KJ	00127	+050000000434	010	CLA JEND
00040	+007000000052	010	18A	TRA 23A	00130	+062200000137	010	STD 36A2
00041	+050000000430	010	19A	CLA NC	00131	-075400200000	00	PXD 0,2
00042	+040200000343	010		SUB 2)+2	00132	+060100000433	010	STO J
00043	+010000000045	010	19A1	TZE 20A	00133	+056000000433	010 36A	LDQ J
00044	+012000000050	010		TPL 22A	00134	-100000000000	00	STR
00045	+050000000335	010	20A	CLA 5)+1	00135	+100001200136	010 36A1	TXI **1,2,1
00046	+060100000432	010		STO KJ	00136	-063400200433	010	SXD J,2
00047	+002000000052	010	21A	TRA 23A	00137	-300000200133	010 36A2	TXL 36A,2
00050	+050000000336	010	22A	CLA 5)+2			38A	BSS
00051	+060100000432	010		STO KJ	00140	+007400400001	010	TSX (FIL),4
00052	-053400200341	010	23A	LXD 2),2	00141	-050000000342	010 39A	CAL 2)+1
00053	-063400200427	010		SXD C)202,2	00142	+007400400000	010	TSX (STH),4
00054	+050000000430	010		CLA NC	00143	+000000000403	010	PZE 8)S7
00055	+062200000225	010		STD 47A2	00144	+007400400001	010	TSX (FIL),4
00056	-075400200000	00		PXD 0,2	00145	+050000000350	010 40A	CLA 6)+3
00057	+060100000435	010		STO JBEG	00146	+060100000425	010	STO 1)+3
00060	-053400100427	010	D)107	LXD C)202,1	00147	+056000000435	010	LDQ JBEG
00061	+050000000435	010	24A	CLA JBEG	00150	+020000000344	010	MPY 2)+3
00062	+040000000342	010		ADD 2)+1	00151	+076700000021	00	ALS 17
00063	+060100000434	010		STO JEND	00152	+040200000344	010	SUB 2)+3
00064	+050000000434	010	25A	CLA JEND	00153	+040000000425	010	ADD 1)+3
00065	+040200000430	010		SUB NC	00154	+060100000425	010	STO 1)+3
00066	+010000000073	010	25A1	TZE 27A	00155	-053400200425	010	LXD 1)+3,2
00067	+012000000071	010		TPL 26A	00156	+056000000434	010	LDQ JEND

SUBROUTINE MWRITE(B,NN)

00157	+020000000344	010	MPY 2)+3	00245	+056000000430	010	LDQ NC	
00160	+076700000021	00	ALS 17	00246	+020000000344	010	MPY 2)+3	
00161	+062200000211	010	STD 44A2	00247	+076700000021	00	ALS 17	
00162	+050000000434	010	CLA JEND	00250	+062200000300	010	STD 56A2	
00163	+040200000435	010	SUB JBEG	00251	+050000000431	010	CLA N1	
00164	+040000000350	010	ADD 6)+3	00252	+062200000305	010	STD 58A1	
00165	+060100000425	010	STO 1)+3	00253	+056000000430	010	LDQ NC	
00166	+056000000425	010	LDQ 1)+3	00254	+020000000344	010	MPY 2)+3	
00167	+020000000344	010	MPY 2)+3	00255	+076700000021	00	ALS 17	
00170	+076700000021	00	ALS 17	00256	+062200000301	010	STD 56A3	
00171	+062200000212	010	STD 44A3	00257	-053400400341	010	LXD 2),4	
00172	-053400400341	010	LXD 2),4	00260	+050000000430	010	CLA NC	
00173	+050000000430	010	CLA NC	00261	+062200000310	010	STD 58A3	
00174	+062200000221	010	STD 46A2	00262	-075400400000	00	PXD 0,4	
00175	-075400400000	00	PXD 0,4	00263	+060100000436	010	STO I	
00176	+060100000436	010	STO I	00264	+050000000431	010	CLA N1	
00177	-050000000342	010	CAL 2)+1	00265	+062200000306	010	STD 58A2	
00200	-063400400351	010	SXD 6)+4,4	00266	-050000000342	010	CAL 2)+1	
00201	+007400400000	010	TSX (STH),4	00267	-063400400351	010	SXD 6)+4,4	
00202	+000000000402	010	PZE 8)S8	00270	+007400400000	010	TSX (STH),4	
00203	-053400400351	010	LXD 6)+4,4	00271	+000000000366	010	PZE 8)SA	
00204	+056000000436	010	LDQ I	00272	-053400400351	010	LXD 6)+4,4	
00205	-100000000000	00	STR	00273	+056000000436	010	LDQ I	
			BSS	00274	-100000000000	00	STR	
		43A	LDQ B+1,2			55A	BSS	
00206	+056000200000	00	44A	00275	+056000200000	00	56A	LDQ B+1,2
00207	-100000000000	00	STR	00276	-100000000000	00	STR	
00210	+100055200211	010	44A1	00277	+100055200300	010	56A1	TXI ++1,2,45
00211	-300000200206	010	44A2	00300	-300000200275	010	56A2	TXL 56A,2
00212	+200000200213	010	44A3	00301	+200000200302	010	56A3	TIX ++1,2
00213	-063400400351	010	46A	00302	-063400400351	010	58A	SXD 6)+4,4
00214	+007400400001	010	TSX (FIL),4	00303	+007400400001	010	TSX (FIL),4	
00215	-053400400351	010	LXD 6)+4,4	00304	-053400400351	010	LXD 6)+4,4	
00216	+100001200217	010	46A1	00305	+100000200306	010	58A1	TXI ++1,2
00217	+100001400220	010	TXI ++1,4,1	00306	+100000400307	010	58A2	TXI ++1,4
00220	-063400400436	010	SXD I,4	00307	-063400400436	010	SXD I,4	
00221	-300000400177	010	46A2	00310	-300000400266	010	58A3	TXL 53A,4
			47A	00311	-050000000342	010	59A	CAL 2)+1
00222	+100007100223	010	47A1	00312	+007400400000	010	TSX (STH),4	
00223	-063400100427	010	SXD C)202,1	00313	+000000000361	010	PZE 8)SB	
00224	-063400100435	010	SXD JBEG,1	00314	-053400200341	010	60A	LXD 2),2
00225	-300000100061	010	47A2	00315	+056000000430	010	LDQ NC	
00226	+002000000327	010	48A	00316	+020000000344	010	MPY 2)+3	
00227	-050000000342	010	49A	00317	+076700000021	00	ALS 17	
00230	+007400400000	010	TSX (STH),4	00320	+062200000324	010	STD 61A2	
00231	+000000000377	010	PZE 8)S9	00321	+056000200000	00	61A	LDQ B+1,2
00232	+056000046677	010	50A	00322	-100000000000	00	STR	
00233	-100000000000	00	LDQ TITL-8	00323	+100056200324	010	61A1	TXI ++1,2,46
00234	+056000046665	010	STR	00324	-300000200321	010	61A2	TXL 61A,2
00235	-100000000000	00	LDQ TITL-9			63A	BSS	
00236	+056000046664	010	STR	00325	+007400400001	010	TSX (FIL),4	
00237	-100000000000	00	TSX (FIL),4	00326	+002000000330	010	TRA 64A	
00240	+007400400001	010	CLA NC	00327	-053400100426	010	D)10S	LXD C)G0,1
00241	+050000000430	010	51A	00330	-053400100002	010	64A	LXD \$,1
00242	+040200000341	010	SUB 2)	00331	-053400200003	010	LXD \$+1,2	
00243	+060100000431	010	STO N1	00332	-053400400004	010	LXD \$+2,4	
00244	-053400200341	010	52A					

SUBROUTINE MWRITE(B,NN)

00333	+002000400003	00		TRA 3,4
00334	+002000000103	010	5)	TRA 31A
00335	+002000000074	010		TRA 28A
00336	+002000000076	010		TRA 29A
00337	+002000000103	010		TRA 31A
00340	+002000000074	010		TRA 28A
00341	+000001000000	00	2)	OCT +000001000000
00342	+000006000000	00		OCT +000006000000
00343	+000026000000	00		OCT +000026000000
00344	+000055000000	00		OCT +000055000000
00345	+233000000000	00	6)	OCT +233000000000
00346	+000000377777	00		OCT +000000377777
00347	+000000000000	00		OCT +000000000000
00350	+000001000000	00		OCT +000001000000
00351	+000000000000	00		OCT +000000000000
00352	+000000000000	00		OCT +000000000000
00353	+103307343460	00		BCD 18.7))
00354	-270147072501	00		BCD 1X1P7E1
00355	-236261617404	00		BCD 1TS//(4
00356	+254325442545	00		BCD 1ELEMEN
00357	+274645214360	00		BCD 1GONAL
00360	+103000243121	00		BCD 18HODIA
00361	-340130006101	00	8)SB	BCD 1(1H0/1
00362	+073434606060	00		BCD 17))
00363	-270725011033	00		BCD 1X7E18.
00364	+103307617404	00		BCD 18.7/(4
00365	-330147072501	00		BCD 1,1P7E1
00366	-340130003103	00	8)SA	BCD 1(1H0I3
00367	-066662616134	00		BCD 1OWS//)
00370	-032162636051	00		BCD 1LAST R
00371	-236021452460	00		BCD 1T AND
00372	+113026315162	00		BCD 19HFIRS
00373	+210673036701	00		BCD 1A6,3X1
00374	+310273036702	00		BCD 1I2,3X2
00375	+242527512525	00		BCD 1DEGREE
00376	+300061073060	00		BCD 1H0/7H
00377	-340130006101	00	8)S9	BCD 1(1H0/1
00400	+346060606060	00		BCD 1)
00401	+072501103307	00		BCD 17E18.7
00402	-343104730147	00	8)S8	BCD 1(14,1P
00403	-340130603460	00	8)S7	BCD 1(1H)
00404	+011034606060	00		BCD 118)
00405	+310106730631	00		BCD 1I16,6I
00406	+273031036161	00		BCD 1GHI3//
00407	-206330514664	00		BCD 1 THROU
00410	-223103731030	00		BCD 1SI3,8H
00411	+234643644445	00		BCD 1COLUMN
00412	-330103670730	00		BCD 1,13X7H
00413	-330367022106	00		BCD 1,3X2A6
00414	+275125253102	00		BCD 1GREEI2
00415	-340730602425	00	8)S6	BCD 1(7H DE
00416	+300034606060	00		BCD 1H0)
00417	-340130006101	00	8)S5	BCD 1(1H0/1
00420	-207401300134	00	8)S4	BCD 1 (1H1)
00421	+000000000001	00	9)	OCT +000000000001

SUBROUTINE MCOPY		
	SUBROUTINE MCOPY	MCOPY 1
C	COPY A TERMS TO UV MATRIX	MCOPY 2
	DIMENSION B1(3),B2(44),B3(2806),B4(946),NCT(16)	MCOPY 3
D	DIMENSION A(45,53),B(45,45)	MCOPY 4
	COMMON B1,NLAST,B2,A,B3,B,B4,NCT	MCOPY 5
D	B(1,1)=A(1)	MCOPY 6
	ASSIGN 20 TO IJK	MCOPY 7
	KB=0	MCOPY 8
	N2=1	MCOPY 9
	DO 30 NDEG=1,NLAST	MCOPY 10
	IF (NDEG-NLAST) 10,5,5	MCOPY 11
	5 ASSIGN 30 TO IJK	MCOPY 12
	10 N1=N2+1	MCOPY 13
	N2=NCT(NDEG)	MCOPY 14
	JC=NDEG+1	MCOPY 15
	KB=KB+NDEG+NDEG-1	MCOPY 16
	DO 30 I=N1,N2	MCOPY 17
D	B(I,1)=A(I)	MCOPY 18
D	B(1,I)=A(I)	MCOPY 19
	J2=N2	MCOPY 20
	KB=KB+2	MCOPY 21
	K=KB	MCOPY 22
	DO 15 J=I,N2	MCOPY 23
	K=K+1	MCOPY 24
D	B(I,J)=A(K)	MCOPY 25
D	15 B(J,I)=A(K)	MCOPY 26
	GO TO IJK,(20,30)	MCOPY 27
	20 DO 25 JDEG=JD,NLAST	MCOPY 28
	J1=J2+1	MCOPY 29
	J2=NCT(JDEG)	MCOPY 30
	K=K+NDEG	MCOPY 31
	DO 25 J=J1,J2	MCOPY 32
	K=K+1	MCOPY 33
D	B(I,J)=A(K)	MCOPY 34
D	25 B(J,I)=A(K)	MCOPY 35
	30 CONTINUE	MCOPY 36
	RETURN	MCOPY 37
	END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)	

SUBROUTINE MCOPY

00000	+000000000000	00	\$	PZE	00070	-063400400401	010	SXD C1G2,4
00001	+000000000000	00		PZE	00071	+050000000371	010	CLA 6)+3
00002	+000000000000	00		PZE	00072	+060100000377	010	STO 1)+3
00003	-042346477060	00		BCD 1MCOPY	00073	+056000000416	010	LDQ N1
00004	-063400100000	010		SXD \$,1	00074	+020000000365	010	MPY 2)+3
00005	-063400200001	010		SXD \$+1,2	00075	+076700000021	00	ALS 17
00006	-063400400002	010		SXD \$+2,4	00076	+040200000365	010	SUB 2)+3
00007	+050000000002	00	1A	CLA 2	00077	+040000000377	010	ADD 1)+3
00010	+060100000373	010		STO 6)+5	00100	+060100000377	010	STO 1)+3
00011	+050000077401	010	6A	CLA A	00101	-053400100377	010	LXD 1)+3,1
00012	+060100077777	010		STO 4)	00102	-063400100405	010	SXD C1102,1
00013	+050000072660	010		CLA A-2385	00103	-053400400405	010	D1704 LXD C1102,4
00014	+060100077776	010		STO 4)-1	00104	-053400200401	010	D1304 LXD C1G2,2
00015	+050000077777	010		CLA 4)	00105	-053400100404	010	D1104 LXD C1101,1
00016	+060100060551	010		STO B	00106	+050000277402	010	18A CLA A+1,2
00017	+050000077776	010		CLA 4)-1	00107	+060100077777	010	STO 4)
00020	+060100054600	010		STO B-2025	00110	+050000272661	010	CLA A-2384,2
00021	+050000000360	010	7A	CLA 5)	00111	+060100077776	010	STO 4)-1
00022	+060100000425	010		STO 1JK	00112	+050000077777	010	CLA 4)
00023	+050000000362	010	8A	CLA 2)	00113	+060100160552	010	STO B+1,1
00024	+060100000420	010		STO KB	00114	+050000077776	010	CLA 4)-1
00025	+050000000363	010	9A	CLA 2)+1	00115	+060100154601	010	STO B-2024,1
00026	+060100000415	010		STC N2	00116	+050000277402	010	19A CLA A+1,2
00027	-053400100363	010	10A	LXD 2)+1,1	00117	+060100077777	010	STO 4)
00030	-063400100400	010		SXD C1G1,1	00120	+050000272661	010	CLA A-2384,2
00031	+050000077456	010		CLA NLAST	00121	+060100077776	010	STO 4)-1
00032	+062200000353	010		STD 36A4	00122	+050000077777	010	CLA 4)
00033	-075400100000	00		PXD 0,1	00123	+060100460552	010	STO B+1,4
00034	+060100000414	010		STO NDEG	00124	+050000077776	010	CLA 4)-1
00035	+050000000414	010	11A	CLA NDEG	00125	+060100454601	010	STO B-2024,4
00036	+040200077456	010		SUB NLAST	00126	+050000000415	010	20A CLA N2
00037	+010000000042	010	11A1	TZE 12A	00127	+060100000422	010	STO J2
00040	+012000000042	010		TPL 12A	00130	+050000000420	010	21A CLA KB
00041	+002000000044	010		TRA 13A	00131	+040000000364	010	ADD 2)+2
00042	+050000000361	010	12A	CLA 5)+1	00132	+060100000420	010	STO KB
00043	+060100000425	010		STO 1JK	00133	+050000000420	010	22A CLA KB
00044	+050000000415	010	13A	CLA N2	00134	+060100000417	010	STO K
00045	+040000000363	010		ADD 2)+1	00135	-053400400417	010	LXD K,4
00046	+060100000416	010		STO N1	00136	-063400400402	010	SXD C1G3,4
00047	+050000146746	010	14A	CLA NCF+1,1	00137	+050000000424	010	23A CLA I
00050	+060100000415	010		STO N2	00140	+060100000377	010	STO 1)+3
00051	+050000000414	010	15A	CLA NDEG	00141	+056000000424	010	LDQ I
00052	+040000000363	010		ADD 2)+1	00142	+020000000365	010	MPY 2)+3
00053	+060100000421	010		STO J0	00143	+076700000021	00	ALS 17
00054	+050000000420	010	16A	CLA KB	00144	+040200000365	010	SUB 2)+3
00055	+040000000414	010		ADD NDEG	00145	+040000000377	010	ADD 1)+3
00056	+040000000414	010		ADD NDEG	00146	+060100000377	010	STO 1)+3
00057	+040200000363	010		SUB 2)+1	00147	-053400400377	010	LXD 1)+3,4
00060	+060100000420	010		STO KB	00150	-063400400411	010	SXD C1201,4
00061	-053400200416	010	17A	LXD N1,2	00151	+050000000424	010	CLA I
00062	-063400200404	010		SXD C1101,2	00152	+060100000377	010	STO 1)+3
00063	+050000000415	010		CLA N2	00153	+056000000424	010	LDQ I
00064	+062200000346	010		STD 36A2	00154	+020000000365	010	MPY 2)+3
00065	-075400200000	00		PXD 0,2	00155	+076700000021	00	ALS 17
00066	+060100000424	010		STO I	00156	+040200000365	010	SUB 2)+3
00067	-053400400416	010		LXD N1,4	00157	+040000000377	010	ADD 1)+3

SUBROUTINE MCOPY

00160	+060100000377	010		STO 11+3		00250	+040200000365	010		SUB 21+3
00161	-053400200377	010		LXD 11+3,2		00251	+040000000377	010		ADD 11+3
00162	-063400200412	010		SXD C1202,2		00252	+060100000377	010		STO 11+3
00163	-053400100424	010		LXD 1,1		00253	-053400400377	010		LXD 11+3,4
00164	-063400100413	010		SXD C1203,1		00254	-063400400406	010		SXD C1103,4
00165	+050000000415	010		CLA N2		00255	+050000000423	010		CLA J1
00166	+062200000223	010		STD 26A2		00256	+060100000377	010		STO 11+3
00167	-053400200411	010	D1605	LXD C1201,2		00257	+056000000424	010		LDQ I
00170	-053400400412	010	D1405	LXD C1202,4		00260	+020000000365	010		MPY 21+3
00171	+050000000417	010	24A	CLA K		00261	+076700000021	00		ALS 17
00172	+040000000363	010		ADD 21+1		00262	+040200000365	010		SUB 21+3
00173	+060100000417	010		STO K		00263	+040000000377	010		ADD 11+3
00174	-053400100417	010		LXD K,1		00264	+060100000377	010		STO 11+3
00175	-063400100402	010		SXD C1G3,1		00265	-053400200377	010		LXD 11+3,2
00176	+050000177402	010	25A	CLA A+1,1		00266	-063400200407	010		SXD C1104,2
00177	+060100077777	010		STO 4)		00267	-053400100423	010		LXD J1,1
00200	+050000172661	010		CLA A-2384,1		00270	-063400100410	010		SXD C1200,1
00201	+060100077776	010		STO 4)-1		00271	+050000000422	010		CLA J2
00202	+050000077777	010		CLA 4)		00272	+062200000327	010		STD 35A2
00203	+060100260552	010		STO B+1,2		00273	-053400200406	010	D1609	LXD C1103,2
00204	+050000077776	010		CLA 4)-1		00274	-053400400407	010	D1409	LXD C1104,4
00205	+060100254601	010		STO B-2024,2		00275	+050000000417	010	33A	CLA K
00206	+050000177402	010	26A	CLA A+1,1		00276	+040000000363	010		ADD 21+1
00207	+060100077777	010		STO 4)		00277	+060100000417	010		STO K
00210	+050000172661	010		CLA A-2384,1		00300	-053400100417	010		LXD K,1
00211	+060100077776	010		STO 4)-1		00301	-063400100402	010		SXD C1G3,1
00212	+050000077777	010		CLA 4)		00302	+050000177402	010	34A	CLA A+1,1
00213	+060100460552	010		STO B+1,4		00303	+060100077777	010		STO 4)
00214	+050000077776	010		CLA 4)-1		00304	+050000172661	010		CLA A-2384,1
00215	+060100454601	010		STO B-2024,4		00305	+060100077776	010		STO 4)-1
00216	+100055200217	010	26A1	TXI **1,2,45		00306	+050000077777	010		CLA 4)
00217	+100001400220	010		TXI **1,4,1		00307	+060100260552	010		STO B+1,2
00220	-053400100413	010		LXD C1203,1		00310	+050000077776	010		CLA 4)-1
00221	+100001100222	010		TXI **1,1,1		00311	+060100254601	010		STO B-2024,2
00222	-063400100413	010		SXD C1203,1		00312	+050000177402	010	35A	CLA A+1,1
00223	-300000100171	010	26A2	TXL 24A,1		00313	+060100077777	010		STO 4)
00224	+002000000425	010	27A	TRA 1JK		00314	+050000172661	010		CLA A-2384,1
00225	-053400100421	010	28A	LXD J0,1		00315	+060100077776	010		STO 4)-1
00226	-063400100403	010		SXD C1G4,1		00316	+050000077777	010		CLA 4)
00227	+050000077456	010		CLA NLAST		00317	+060100460552	010		STO B+1,4
00230	+062200000333	010		STD 35A4		00320	+050000077776	010		CLA 4)-1
00231	+050000000422	010	29A	CLA J2		00321	+060100454601	010		STO B-2024,4
00232	+040000000363	010		ADD 21+1		00322	+100055200323	010	35A1	TXI **1,2,45
00233	+060100000423	010		STO J1		00323	+100001400324	010		TXI **1,4,1
00234	+050000146746	010	30A	CLA NCT+1,1		00324	-053400100410	010		LXD C1200,1
00235	+060100000422	010		STO J2		00325	+100001100326	010		TXI **1,1,1
00236	+050000000417	010	31A	CLA K		00326	-063400100410	010		SXD C1200,1
00237	+040000000414	010		ADD NDEG		00327	-300000100275	010	35A2	TXL 33A,1
00240	+060100000417	010		STO K		00330	-053400100403	010		LXD C1G4,1
00241	-053400200417	010		LXD K,2		00331	+100001100332	010		TXI **1,1,1
00242	-063400200402	010		SXD C1G3,2		00332	-063400100403	010		SXD C1G4,1
00243	+050000000424	010	32A	CLA I		00333	-300000100231	010	35A4	TXL 29A,1
00244	+060100000377	010		STO 11+3					36A	BSS
00245	+056000000423	010		LDQ J1		00334	-053400100404	010		LXD C1101,1
00246	+020000000365	010		MPY 21+3		00335	+100001100336	010	36A1	TXI **1,1,1
00247	+076700000021	00		ALS 17		00336	-063400100404	010		SXD C1101,1

SUBROUTINE MCOPY

00337	-063400100424	010		SXD	1,1
00340	-053400200401	010		LXD	C)G2,2
00341	+100001200342	010		TXI	*+1,2,1
00342	-063400200401	010		SXD	C)G2,2
00343	-053400400405	010		LXD	C)102,4
00344	+100055400345	010		TXI	*+1,4,45
00345	-063400400405	010		SXD	C)102,4
00346	-300000100106	010	36A2	TXL	18A,1
00347	-053400100400	010		LXD	C)G1,1
00350	+100001100351	010		TXI	*+1,1,1
00351	-063400100400	010		SXD	C)G1,1
00352	-063400100414	010		SXD	NDEG,1
00353	-300000100035	010	36A4	TXL	11A,1
00354	-053400100000	010	37A	LXD	\$,1
00355	-053400200001	010		LXD	\$+1,2
00356	-053400400002	010		LXD	\$+2,4
00357	+002000400001	00		TRA	1,4
00360	+002000000225	010	5)	TRA	28A
00361	+002000000334	010		TRA	36A
00362	+000000000000	00	2)	OCT	+000000000000
00363	+000001000000	00		OCT	+000001000000
00364	+000002000000	00		OCT	+000002000000
00365	+000055000000	00		OCT	+000055000000
00366	+233000000000	00	6)	OCT	+233000000000
00367	+000000377777	00		OCT	+000000377777
00370	+000000000000	00		OCT	+000000000000
00371	+000001000000	00		OCT	+000001000000
00372	+000000000000	00		OCT	+000000000000
00373	+000000000000	00		OCT	+000000000000

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SUBROUTINE PUNCH(NP)

SUBROUTINE PUNCH(NP) PUNCH 1
C PUNCH ONLY COEFFICIENTS OR INVERSE, STANDARD FMT, SINGLE PRECISIONPUNCH 2
  DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8,PUNCH 3
18),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12) PUNCH 4
D DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)PUNCH 5
1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1),PUNCH 6
2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),SCA(10) PUNCH 7
COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT, PUNCH 8
INCDE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,NSAVE, PUNCH 9
2NVS AV,MSV,MSV2,NLST,NC2,NV2,NV3 PUNCH 10
EQUIVALENCE (NODECK,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLAST,NT(4))PUNCH 11
1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMPUNCH 12
2,MTEMP),(C,MC),(B,MB),(Y,MY),(X,MX),(XX,MXX),(DET,MDET),(XNORM,NORPUNCH 13
3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV) PUNCH 14
DIMENSION PNC(4) PUNCH 15
NDEG=NDEG PUNCH 16
GO TO (10,50),NP PUNCH 17
10 LL=XMINOF(NLAST,NT(14)) PUNCH 18
DO 40 NDEG=NFIRST,LL PUNCH 19
N=NCOE(NDEG) PUNCH 20
NC=NCT(NDEG) PUNCH 21
L=N PUNCH 22
DO 40 J=1,NV PUNCH 23
N=N+NC PUNCH 24
KARD=0 PUNCH 25
20 DO 35 K=1,4 PUNCH 26
IF (L-N) 30,25,25 PUNCH 27
25 PNC(K)=0. PUNCH 28
GO TO 35 PUNCH 29
30 L=L+1 PUNCH 30
PNC(K)=C(L) PUNCH 31
35 CONTINUE PUNCH 32
KARD=KARD+1 PUNCH 33
WRITE OUTPUT TAPE 7, 901, NODECK,PNC,NDEG,NVJ(J),KARD PUNCH 34
IF (L-N) 20,40,40 PUNCH 35
40 CONTINUE PUNCH 36
GO TO 90 PUNCH 37
50 KARD=0 PUNCH 38
I=1 PUNCH 39
J=0 PUNCH 40
55 DO 80 K=1,4 PUNCH 41
IF (J-NC) 75,60,60 PUNCH 42
60 IF (I-NC) 70,65,65 PUNCH 43
65 PNC(K)=0. PUNCH 44
GO TO 80 PUNCH 45
70 I=I+1 PUNCH 46
J=1 PUNCH 47
GO TO 76 PUNCH 48
75 J=J+1 PUNCH 49
76 PNC(K)=A(I,J) PUNCH 50
80 CONTINUE PUNCH 51
KARD=KARD+1 PUNCH 52
WRITE OUTPUT TAPE 7, 900,NODECK,PNC,NDEG,KARD PUNCH 53
IF (I-NC) 55,85,85 PUNCH 54
85 IF (J-NC) 55,90,90 PUNCH 55
90 END FILE 7 PUNCH 56

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SUBROUTINE PUNCH(NP)

RETURN

900 FORMAT(A6,4E15.8,6X1HD11,3HINV13)

901 FORMAT(A6,4E15.8,6X1HD11,2HCX212)

END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)

PUNCH 57

PUNCH 58

PUNCH 59

SUBROUTINE PUNCH(NP)

00000	-346263303460	00	(STH)	BCD 1(STH)	00070	+002000000074	010	TRA 24A
00001	-346243463460	00	(SLO)	BCD 1(SLO)	00071	+050000000317	010 22A	CLA 3)
00002	-342631433460	00	(FIL)	BCD 1(FIL)	00072	+060100100364	011	STO PNC+1,1
00003	-342526633460	00	(EFT)	BCD 1(EFT)	00073	+002000000103	010 23A	TRA 26A
00004	+000000000000	00	\$	PZE	00074	+050000000353	010 24A	CLA L
00005	+000000000000	00		PZE	00075	+040000000314	010	ADD 2)+1
00006	+000000000000	00		PZE	00076	+060100000353	010	STO L
00007	-076445233060	00		BCD 1PUNCH	00077	-053400400353	010	LXD L,4
00010	-063400100004	010		SXD \$,1	00100	-063400400347	010	SXD C)G4,4
00011	-063400200005	010		SXD \$+1,2	00101	+050000465652	010 25A	CLA C+1,4
00012	-063400400006	010		SXD \$+2,4	00102	+060100100364	011	STO PNC+1,1
00013	+050000400001	00		CLA 1,4			26A	BSS
00014	+062100000017	010		STA 1A+2	00103	+100001100104	010 26A1	TXI **1,1,1
00015	+050000000002	00	1A	CLA 2	00104	-300004100064	010 26A2	TXL 21A,1,4
00016	+060100000325	010		STO 6)+5	00105	+050000000355	010 27A	CLA KARD
00017	-053400100000	00		LXD NP,1	00106	+040000000314	010	ADD 2)+1
00020	-063400100344	010		SXD C)G0,1	00107	+060100000355	010	STO KARD
00021	+050000046677	010	10A	CLA NDEG	00110	-050000000315	010 28A	CAL 2)+2
00022	+060100046677	010		STO NDEG	00111	-063400400324	010	SXD 6)+4,4
00023	+002000100026	010	11A	TRA 11A+3,1	00112	+007400400000	010	TSX (STH),4
00024	+002000000152	010		TRA 33A	00113	+000000000332	010	PZE 8)55
00025	+056000077456	010	12A	LDQ NLAST	00114	-053400400324	010	LXD 6)+4,4
00026	+050000077444	010		CLA NT-13	00115	+056000077461	010 29A	LDQ NODECK
00027	+004000000031	010		TLQ **2	00116	-100000000000	00	STR
00030	+056000077444	010		LDQ NT-13	00117	-063400400324	010	SXD 6)+4,4
00031	+013100000000	00		XCA	00120	+007400400001	010	TSX (SLO),4
00032	+060100000354	010		STO LL	00121	+000000000364	011	PZE PNC+1
00033	-053400277457	010	13A	LXD NFIRST,2	00122	+000000000004	00	PZE 4
00034	-063400200345	010		SXD C)G2,2	00123	-053400400324	010	LXD 6)+4,4
00035	+050000000354	010		CLA LL	00124	+056000046677	010	LDQ NDEG
00036	+062200000150	010		STD 31A4	00125	-100000000000	00	STR
00037	-075400200000	00		PXD 0,2	00126	+056000246662	010	LDQ NVJ+1,2
00040	+060100046677	010		STO NDEG	00127	-100000000000	00	LDQ
00041	+050000246726	010	14A	CLA NCOE+1,2	00130	+056000000355	010	STR KARD
00042	+060100000352	010		STO N	00131	-100000000000	00	STR
00043	+050000246746	010	15A	CLA NCT+1,2	00132	-063400400324	010	SXD 6)+4,4
00044	+060100046700	010		STO NC	00133	+007400400002	010	TSX (FIL),4
00045	+050000000352	010	16A	CLA N	00134	-053400400324	010	LXD 6)+4,4
00046	+060100000353	010		STO L	00135	+050000000353	010 30A	CLA L
00047	-053400400353	010		LXD L,4	00136	+040200000352	010	SUB N
00050	-063400400347	010		SXD C)G4,4	00137	+010000000142	010 30A1	TZE 31A
00051	-053400100314	010	17A	LXD 2)+1,1	00140	+012000000142	010	TPL 31A
00052	-063400100350	010		SXD C)G5,1	00141	+002000000063	010	TRA 20A
00053	+050000077460	010		CLA NV			31A	BSS
00054	+062200000143	010		STD 31A2	00142	+100001200143	010 31A1	TXI **1,2,1
00055	-053400200350	010	D)203	LXD C)G5,2	00143	-300002000056	010 31A2	TXL 18A,2
00056	+050000000352	010	18A	CLA N	00144	-053400200345	010	LXD C)G2,2
00057	+040000046700	010		ADD NC	00145	+100001200146	010	TXI **1,2,1
00060	+060100000352	010		STO N	00146	-063400200345	010	SXD C)G2,2
00061	+050000000313	010	19A	CLA 2)	00147	-063400246677	010	SXD NDEG,2
00062	+060100000355	010		STO KARD	00150	-300002000041	010 31A4	TXL 14A,2
00063	-053400100314	010	20A	LXD 2)+1,1	00151	+002000000266	010 32A	TRA D)300
00064	+050000000353	010	21A	CLA L	00152	+050000000313	010 33A	CLA 2)
00065	+040200000352	010		SUB N	00153	+060100000355	010	STO KARD
00066	+010000000071	010	21A1	TZE 22A	00154	+050000000314	010 34A	CLA 2)+1
00067	+012000000071	010		TPL 22A	00155	+060100000357	010	STO I

SUBROUTINE PUNCH(NP)

00156	+007400400276	010	TSX A)100,4	00245	+000000000364	011	PZE PNC+1
00157	-053400200351	010	LXD C)100,2	00246	+000000000004	00	PZE 4
00160	+050000000313	010 35A	CLA 2)	00247	+056000046677	010	LDQ NDEG
00161	+060100000356	010	STO J	00250	-100000000000	00	STR
00162	+007400400276	010	TSX A)100,4	00251	+056000000355	010	LDQ KARD
00163	-053400200351	010	LXD C)100,2	00252	-100000000000	00	STR
00164	-053400400314	010 36A	LXD 2)+1,4	00253	+007400400002	010	TSX (FIL),4
00165	+050000000356	010 37A	CLA J	00254	+050000000357	010 50A	CLA I
00166	+040200046700	010	SUB NC	00255	+040200046700	010	SUB NC
00167	+010000000172	010 37A1	TZE 38A	00256	+010000000261	010 50A1	TZE 51A
00170	+012000000172	010	TPL 38A	00257	+012000000261	010	TPL 51A
00171	+002000000221	010	TRA 44A	00260	+002000000164	010	TRA 36A
00172	+050000000357	010 38A	CLA I	00261	+050000000356	010 51A	CLA J
00173	+040200046700	010	SUB NC	00262	+040200046700	010	SUB NC
00174	+010000000177	010 38A1	TZE 39A	00263	+010000000270	010 51A1	TZE 52A
00175	+012000000177	010	TPL 39A	00264	+012000000270	010	TPL 52A
00176	+002000000202	010	TRA E)I	00265	+002000000164	010	TRA 36A
00177	+050000000317	010 39A	CLA 3)	00266	-053400100344	010 D)300	LXD C)GO,1
00200	+060100400364	011	STO PNC+1,4	00267	-053400200351	010 D)200	LXD C)100,2
00201	+002000000232	010 40A	TRA 46A	00270	-050000000315	010 52A	CAL 2)+2
00202	-063400400346	010 E)I	SXD C)G3,4	00271	+007400400003	010	TSX (EFT),4
00203	+050000000357	010 41A	CLA I	00272	-053400100004	010 53A	LXD \$,1
00204	+040000000314	010	ADD 2)+1	00273	-053400200005	010	LXD \$+1,2
00205	+060100000357	010	STO I	00274	-053400400006	010	LXD \$+2,4
00206	-063400400324	010	SXD 6)+4,4	00275	+002000400002	00	TRA 2,4
00207	+007400400276	010	TSX A)100,4	00276	+050000000323	010 A)100	CLA 6)+3
00210	-053400200351	010	LXD C)100,2	00277	+060100000343	010	STO 1)+3
00211	-053400400324	010	LXD 6)+4,4	00300	+050000000357	010	CLA I
00212	+050000000314	010 42A	CLA 2)+1	00301	+040200000323	010	SUB 6)+3
00213	+060100000356	010	STO J	00302	+040000000343	010	ADD 1)+3
00214	-063400400324	010	SXD 6)+4,4	00303	+060100000343	010	STO 1)+3
00215	+007400400276	010	TSX A)100,4	00304	+056000000356	010	LDQ J
00216	-053400200351	010	LXD C)100,2	00305	+020000000316	010	MPY 2)+3
00217	-053400400324	010	LXD 6)+4,4	00306	+076700000021	00	ALS 17
00220	+002000000230	010 43A	TRA 45A	00307	+040200000316	010	SUB 2)+3
00221	+050000000356	010 44A	CLA J	00310	+040000000343	010	ADD 1)+3
00222	+040000000314	010	ADD 2)+1	00311	+060100000351	010	STO C)100
00223	+060100000356	010	STO J	00312	+002000400001	00	TRA 1,4
00224	-063400400324	010	SXD 6)+4,4	00313	+000000000000	00 2)	OCT +000000000000
00225	+007400400276	010	TSX A)100,4	00314	+000001000000	00	OCT +000001000000
00226	-053400200351	010	LXD C)100,2	00315	+000007000000	00	OCT +000007000000
00227	-053400400324	010	LXD 6)+4,4	00316	+000055000000	00	OCT +000055000000
00230	+050000277402	010 45A	CLA A+1,2	00317	+000000000000	00 3)	OCT +000000000000
00231	+060100400364	011	STO PNC+1,4	00320	+233000000000	00 6)	OCT +233000000000
		46A	BSS	00321	+000000377777	00	OCT +000000377777
00232	+100001400233	010 46A1	TXI **1,4,1	00322	+000000000000	00	OCT +000000000000
00233	-300004400165	010 46A2	TXL 37A,4,4	00323	+000001000000	00	OCT +000001000000
00234	+050000000355	010 47A	CLA KARD	00324	+000000000000	00	OCT +000000000000
00235	+040000000314	010	ADD 2)+1	00325	+000000000000	00	OCT +000000000000
00236	+060100000355	010	STO KARD	00326	+310234606060	00	BCD 1)2)
00237	-050000000315	010 48A	CAL 2)+2	00327	-330230236702	00	BCD 1,2)XC2
00240	+007400400000	010	TSX (STH),4	00330	-270130243101	00	BCD 1)X)HD11
00241	+000000000337	010	PZE 8)S4	00331	+010533107306	00	BCD 1)5,8,6
00242	+056000077461	010 49A	LDQ NODECK	00332	-342106730425	00 8)S5	BCD 1)A6,4E
00243	-100000000000	00	STR	00333	+310334606060	00	BCD 1)3)
00244	+007400400001	010	TSX (SLO),4	00334	-330330314565	00	BCD 1,3)INV

SUBROUTINE PUNCH(NP)

00335	-270130243101	00		BCD 1X1HD11
00336	+010533107306	00		BCD 115.8,6
00337	-342106730425	00	81S4	BCD 11A6,4E

00004
00045
00067

ENTRY MCD
ENTRY WRT1
ENTRY WRT2

MODWRT 1
MODWRT 2
MODWRT 3

TRANSFER VECTOR

BINARY CARD NO. MODWRT01

00000 746362303460 (TSH)
00001 745163453460 (RTN)
00002 746263303460 (STH)
00003 742631433460 (FIL)

00004 0634 00 4 00043 MCD SXA RET,4
00005 0500 00 0 77454 CLA NT=5
00006 0402 00 0 00127 SUB =02000000
00007 -0120 00 0 00024 TMI A2
00010 0500 00 4 00001 CLA 1,4
00011 0621 00 0 00017 STA A1
00012 -0500 00 0 00130 CAL =05000000
00013 0074 00 4 00000 TSX \$(TSH),4
00014 0 00000 0 00106 PZE F2
00015 0774 00 4 00000 AXT 0,4
00016 -1 00000 0 00000 STR
00017 -0600 00 4 00000 A1 STQ **,4
00020 1 00001 4 00021 TXI *,1,4,1
00021 -3 00013 4 00016 TXL *=3,4,11
00022 0074 00 4 00001 TSX \$(RTN),4
00023 0020 00 0 00033 TRA A4

MODWRT 6
MODWRT 7
MODWRT 8
MODWRT 9
MODWRT10
MODWRT11
MODWRT12
MODWRT13
MODWRT14
MODWRT15
MODWRT16
MODWRT17
MODWRT18
MODWRT19
MODWRT20
MODWRT21

BINARY CARD NO. MODWRT02

00024 0500 00 4 00001 A2 CLA 1,4
00025 0400 00 0 00126 ADD =1
00026 0621 00 0 00031 STA A3
00027 0774 00 4 00003 AXT 3,4
00030 -0500 00 4 00106 CAL F1+1,4
00031 0602 00 4 00000 A3 SLW **,4
00032 2 00001 4 00030 A4 TIX *=2,4,1
00033 -0500 00 0 00132 CAL =0777700777777
00034 0320 00 0 00122 ANS F4+5
00035 0320 00 0 00112 ANS F3+3
00036 0500 00 0 77460 CLA NT=1
00037 -0602 00 0 00112 ORS F3+3
00040 -0602 00 0 00122 ORS F4+5
00041 0622 00 0 00077 STD W2
00042 0622 00 0 00063 STD W1
00043 0774 00 4 00000 RET AXT **,4
00044 0020 00 4 00002 TRA 2,4
00045 0634 00 4 00065 WRT1 SXA RT1,4
00046 -0500 00 0 00131 CAL =06000000
00047 0074 00 4 00002 TSX \$(STH),4

MODWRT22
MODWRT23
MODWRT24
MODWRT25
MODWRT26
MODWRT27
MODWRT28
MODWRT29
MODWRT30
MODWRT31
MODWRT32
MODWRT33
MODWRT34
MODWRT35
MODWRT36
MODWRT37
MODWRT38
MODWRT39
MODWRT40
MODWRT41

BINARY CARD NO. MODWRT03

00050 0 00001 0 00115 PZE F4,1
00051 0560 00 0 46476 LDQ NTR
00052 -1 00000 0 00000 STR
00053 0560 00 0 46475 LDQ NTR=1

MODWRT42
MODWRT43
MODWRT44
MODWRT45

00054	-1	00000	0	00000		STR			MCDWRT46
00055	0774	00	4	00001		AXT	1,4		MCDWRT47
00056	0560	00	4	46662		LDQ	NVJ+1,4		MCDWRT48
00057	-1	00000	0	00000		STR			MCDWRT49
00060	0560	00	4	46475		LDQ	NTR=1,4		MCDWRT50
00061	-1	00000	0	00000		STR			MCDWRT51
00062	1	00001	4	00063		TXI	*+1,4,1		MCDWRT52
00063	-3	00000	4	00056	W1	TXL	*-5,4,**		MCDWRT53
00064	0074	00	4	00003		TSX	\$(FIL),4		MCDWRT54
00065	0774	00	4	00000	RT1	AXT	**,4		MCDWRT55
00066	0020	00	4	00001		TRA	1,4		MCDWRT56
00067	0634	00	4	00101	WRT2	SXA	RT2,4		MCDWRT57
00070	-0500	00	0	00131		CAL	=06000000		MCDWRT58
00071	0074	00	4	00002		TSX	\$(STH),4		MCDWRT59
00072	0	00001	0	00107		PZE	F3,+1		MCDWRT60
00073	0774	00	4	00001		AXT	1,4		MCDWRT61

BINARY CARD NO. MCDWRT04

00074	0560	00	4	46662		LDQ	NVJ+1,4		MCDWRT62
00075	-1	00000	0	00000		STR			MCDWRT63
00076	1	00001	4	00077		TXI	*+1,4,1		MCDWRT64
00077	-3	00000	4	00074	W2	TXL	*-3,4,**		MCDWRT65
00100	0074	00	4	00003		TSX	(FIL),4		MCDWRT66
00101	0774	00	4	00000	RT2	AXT	**,4		MCDWRT67
00102	0020	00	4	00001		TRA	1,4		MCDWRT68
00103	346060606060					BCI	1,)		MCDWRT69
00104	010026063303					BCI	1,10F6,3		MCDWRT70
00105	740667210473				F1	BCI	1,(6XA4,		MCDWRT71
00106	740102210634				F2	BCI	1,(12A6)		MCDWRT72
00107	740367023031				F3	BCI	6,(3X2HID8X1HU11X1HV1X0(9X1HXI2)//)		MCDWRT73
00110	241067013064								
00111	010167013065								
00112	016700741167								
00113	013067310234								
00114	616134606060								
00115	740367023031				F4	BCI	9,(3X2HID6X5HU,TR.I1,6X5HV,TR.I1, 0(4X1HXI2,4H,TR.I1)//)		MCDWRT74
00116	240667053064								
00117	736351333101								

BINARY CARD NO. MCDWRT05

00120	730667053065								
00121	736351333101								
00122	736000740467								
00123	013067310273								
00124	043073635133								
00125	310134616134								
	77461	NT	COMMON	48					MCDWRT75
	77401	BL1	COMMON	12624					MCDWRT76
	46661	NVJ	COMMON	8					MCDWRT77
	46651	BL2	COMMON	107					MCDWRT78
	46476	NTR	COMMON	10					MCDWRT79
			END						

LITERALS

00126	000000000001
00127	000002000000

00130 00005000000
00131 00006000000
00132 77770077777

00002

ENTRY WRT3
WRITE MACRO A
CLA A,4
ADD SC
XCA
STR
WRITE END

WRT3 1
WRT3 5
WRT3 6
WRT3 7
WRT3 8
WRT3 9
WRT3 10

TRANSFER VECTOR

BINARY CARD NO. WRT30001

00000 746263303460 (STH)
00001 742631433460 (FIL)

00002 0634 00 2 00076 WRT3 SXA RETN,2
00003 0634 00 4 00077 SXA RETN+1,4
00004 0500 00 0 00137 CLA =1
00005 0621 00 0 00037 STA W3+8
00006 -0500 00 0 00141 CAL =06000000
00007 0074 00 4 00000 TSX \$(STH),4
00010 0 00001 0 00106 PZE F6,,1
00011 0774 00 4 00000 AXT 0,4
00012 WRITE SCA
00012 0500 00 4 47123 CLA SCA,4
00013 0400 00 0 00136 ADD SC
00014 0131 00 0 00000 XCA
00015 -1 00000 0 00000 STR
00016 WRITE SCA-1
00016 0500 00 4 47122 CLA SCA-1,4
00017 0400 00 0 00136 ADD SC
00020 0131 00 0 00000 XCA
00021 -1 00000 0 00000 STR
00022 0074 00 4 00001 TSX \$(FIL),4
00023 0560 00 0 00142 LDQ =07000000

WRT3 11
WRT3 12
WRT3 13
WRT3 14
WRT3 15
WRT3 16
WRT3 17
WRT3 18
WRT3 19
WRT3 19.001
WRT3 19.001
WRT3 19.001
WRT3 19.001
WRT3 20
WRT3 20.001
WRT3 20.001
WRT3 20.001
WRT3 20.001
WRT3 21
WRT3 22

BINARY CARD NO. WRT30002

00024 0500 00 0 77460 CLA NT-1
00025 0040 00 0 00101 TLQ W8
00026 0760 00 0 00140 SLF 0
00027 0622 00 0 00047 W3 STD W4
00030 0441 00 0 00117 LDI F7+1
00031 -0057 00 0 000077 RIL 77
00032 0043 00 0 00000 OAI
00033 0604 00 0 00117 STI F7+1
00034 -0500 00 0 00141 CAL =06000000
00035 0074 00 4 00000 TSX \$(STH),4
00036 0 00001 0 00116 PZE F7,,1
00037 0774 00 4 00000 AXT **,4
00040 0560 00 4 46662 LDQ NVJ+1,4
00041 -1 00000 0 00000 STR
00042 WRITE SCA-1
00042 0500 00 4 47122 CLA SCA-1,4
00043 0400 00 0 00136 ADD SC
00044 0131 00 0 00000 XCA
00045 -1 00000 0 00000 STR
00046 1 00001 4 00047 TXI **1,4,1

WRT3 23
WRT3 24
WRT3 25
WRT3 26
WRT3 27
WRT3 28
WRT3 29
WRT3 30
WRT3 31
WRT3 32
WRT3 33
WRT3 34
WRT3 35
WRT3 36
WRT3 37
WRT3 37.001
WRT3 37.001
WRT3 37.001
WRT3 37.001
WRT3 38

00047	-3 00000 4 00040	W4	TXL	*-7,4,**	WRT3	39
BINARY CARD NO. WRT30003						
00050	0074 00 4 00001		TSX	(FIL),4	WRT3	40
00051	-0760 00 0 00141		SLT	1	WRT3	41
00052	0020 00 0 00060		TRA	W5	WRT3	42
00053	0774 00 4 00010		AXT	8,4	WRT3	43
00054	0634 00 4 00037		SXA	W3+8,4	WRT3	44
00055	-0634 00 4 00047		SXD	W4,4	WRT3	45
00056	0500 00 0 00140		CLA	=01000000	WRT3	46
00057	0020 00 0 00030		TRA	W3+1	WRT3	47
00060	-0534 00 4 77456	W5	LXD	NT-3,4	WRT3	48
00061	0500 00 4 46746		CLA	NCT+1,4	WRT3	49
00062	0622 00 0 00074		STD	W6	WRT3	50
00063	-0500 00 0 00141		CAL	=06000000	WRT3	51
00064	0074 00 4 00000		TSX	(STH),4	WRT3	52
00065	0 00001 0 00124		PZE	F9,,1	WRT3	53
00066	0774 00 4 00001		AXT	1,4	WRT3	54
00067			WRITE	SAV+1	WRT3	55
00067	0500 00 4 47100		CLA	SAV+1,4	WRT3	55.001
00070	0400 00 0 00136		ADD	SC	WRT3	55.001
00071	0131 00 0 00000		XCA		WRT3	55.001
00072	-1 00000 0 00000		STR		WRT3	55.001
00073	1 00001 4 00074		TXI	**+1,4,1	WRT3	56
BINARY CARD NO. WRT30004						
00074	-3 00000 4 00067	W6	TXL	*-5,4,**	WRT3	57
00075	0074 00 4 00001		TSX	(FIL),4	WRT3	58
00076	0774 00 2 00000	RETN	AXT	** ,2	WRT3	59
00077	0774 00 4 00000		AXT	** ,4	WRT3	60
00100	0020 00 4 00001		TRA	1,4	WRT3	61
00101	0760 00 0 00141	W8	SLN	1	WRT3	62
00102	0131 00 0 00000		XCA		WRT3	63
00103	0020 00 0 00027		TRA	W3	WRT3	64
00104	740467014707	F5	BCI	2,(4X1P7E18.4)	WRT3	65
00105	250110330434					
00106	740104300162	F6	BCI	8,(14HISCALE FACTORS//9X3HU--1PE10.4,5X3HV--E10.4)	WRT3	66
00107	232143256026					
00110	212363465162					
00111	616111670330					
00112	644040014725					
00113	010033047305					
00114	670330654040					
00115	250100330434					
00116	740130000367	F7	BCI	6,(1H03X 0(3X1HXI2,2H--1PE10.4))	WRT3	67
00117	606000740367					
BINARY CARD NO. WRT30005						
00120	013067310273					
00121	023040400147					
00122	250100330434					
00123	346060606060					
00124	740130006103	F9	BCI	,(1H0/32H0POWERS OF U AND V SCALE FACTORS/(1H03X1P7E18.4))	WRT3	68
00125	023000474666					
00126	255162604626					
00127	606460214524					

00130	606560622321				
00131	432560262123				
00132	634651626174				
00133	013000036701				
00134	470725011033				
00135	043434606060				
00136	+201400000000	SC	UCT	201400000000	
	77461	NT	COMMON	48	
	77401	BL1	COMMON	12462	
	47123	SCA	COMMON	20	
	47077	SAV	COMMON	90	
	46745	NCT	COMMON	16	
	46725	BL2	COMMON	36	
	46661	NVJ	COMMON	8	
			END		

WRT3	69
WRT3	70
WRT3	71
WRT3	72
WRT3	73
WRT3	74
WRT3	75
WRT3	76

LITERALS

00137	000000000001
00140	000001000000
00141	000006000000
00142	000007000000

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SUBROUTINE UVMAX

SUBROUTINE UVMAX                                UVMAX  1
DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8,8),UVMAX  2
18),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12)    UVMAX  3
D DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)UVMAX  4
1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1),UVMAX  5
2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),SCA(10)          UVMAX  6
COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT,    UVMAX  7
1NCOE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,NSAVE,    UVMAX  8
2NVSAV,MSV,MSV2,NLST,NC2,NV2,NV3                                  UVMAX  9
EQUIVALENCE (NODECK,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLAST,NT(4))UVMAX 10
1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP,UVMAX 11
2,MTEMP),(C,MC),(B,MB),(Y,MY),(X,MX),(XX,MXX),(DET,MDET),(XNORM,NORUVMAX 12
3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV)                UVMAX 13
WRITE OUTPUT TAPE 6,900,NLAST                                     UVMAX 14
ASSIGN 5 TO IJK                                                  UVMAX 15
T=B(1)                                                            UVMAX 16
KK=1                                                                UVMAX 17
LL=1                                                                UVMAX 18
TEMP=0.                                                            UVMAX 19
SUM=0.                                                            UVMAX 20
TITL(11)=BLANK                                                    UVMAX 21
NC=0                                                                UVMAX 22
IF ACCUMULATOR OVERFLOW 2.2                                     UVMAX 23
2 DC 60 NDEG=1,NLAST                                             UVMAX 24
NB=NC+1                                                            UVMAX 25
NC=NCT(NDEG)                                                       UVMAX 26
DC 50 I=NB,NC                                                       UVMAX 27
GC TO IJK, (5,20)                                                 UVMAX 28
5 SUM=SUM+B(I,I)                                                  UVMAX 29
IF ACCUMULATOR OVERFLOW 10,25                                   UVMAX 30
10 ASSIGN 20 TO IJK                                              UVMAX 31
B TITL(11)=606025600305                                          UVMAX 32
SUM=0.                                                            UVMAX 33
DC 15 L=1,I                                                        UVMAX 34
15 SUM=(B(L,L)*1.E-35)+SUM                                         UVMAX 35
GO TO 25                                                            UVMAX 36
20 SUM=(B(I,I)*1.E-35)+SUM                                         UVMAX 37
25 DC 50 J=1,I                                                     UVMAX 38
IF (XABSF(MB(I,J))-MTEMP) 35,35,30                               UVMAX 39
30 TEMP=ABSF(B(I,J))                                             UVMAX 40
II=I                                                                UVMAX 41
JJ=J                                                                UVMAX 42
GO TO 50                                                            UVMAX 43
35 IF (XABSF(MB(I,J))-MT) 40,50,50                               UVMAX 44
40 T=ABSF(B(I,J))                                                 UVMAX 45
LL=I                                                                UVMAX 46
KK=J                                                                UVMAX 47
50 CONTINUE                                                       UVMAX 48
RT=TEMP/T                                                         UVMAX 49
60 WRITE OUTPUT TAPE 6,901,NDEG,T(1),LL,KK,TEMP,II,JJ,RT,SUM,TITL(11)UVMAX 50
RETURN                                                            UVMAX 51
900 FORMAT(1H0/1H0/29H0UV MATRIX, DEGREES 1 THROUGH12/4H0DEG6X18HMINIMUVMAX 52
1UM ROW COL7X18HMAXIMUM ROW COL8X5HRATIO8X14HSUM, DIAG.ELS.//UVMAX 53
1)                                                                UVMAX 54
901 FORMAT(I3,1PE15.3,2I5,E15.3,2I5,E15.3,E19.7,A7)             UVMAX 55
END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)

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SUBROUTINE UVMAX

00000	-346263303460	00	(STH)	BCD 1(STH)	00070	-063400200341	010	SXD C)100,2
00001	-342631433460	00	(FIL)	BCD 1(FIL)	00071	-053400400347	010	LXD NB,4
00002	+000000000000	00	\$	PZE	00072	-063400400344	010	SXD C)201,4
00003	+000000000000	00		PZE	00073	+050000046700	010	CLA NC
00004	+000000000000	00		PZE	00074	+062200000213	010	STD 46A4
00005	-246544216760	00		BCD 1UVMAX	00075	-075400400000	00	PXD 0,4
00006	-063400100002	010		SXD \$,1	00076	+060100000354	010	STO I
00007	-063400200003	010		SXD \$+1,2	00077	-053400100341	010	D)303 LXD C)100,1
00010	-063400400004	010		SXD \$+2,4	00100	-053400200344	010	D)203 LXD C)201,2
00011	+050000000002	00	1A	CLA 2	00101	+002000000355	010	25A TRA IJK
00012	+060100000276	010		STO 6)+5	00102	+050000000345	010	26A CLA SUM
00013	-050000000262	010	9A	CAL 2)	00103	+030000160552	010	FAD 8+1,1
00014	+007400400000	010		TSX (STH),4	00104	+060100000345	010	STO SUM
00015	+000000000333	010		PZE 8)S4	00105	-050000077462	010	27A CAL 4)-205
00016	+056000077456	010	10A	LDQ NLAST	00106	+060000077462	010	STZ 4)-205
00017	-100000000000	00		STR	00107	-010000000111	010	28A TNZ 29A
00020	+007400400001	010		TSX (FIL),4	00110	+002000000137	010	TRA 36A
00021	+050000000260	010	11A	CLA 5)	00111	+050000000261	010	29A CLA 5)+1
00022	+060100000355	010		STO IJK	00112	+060100000355	010	STO IJK
00023	+050000060551	010	12A	CLA B	00113	-050000000267	010	30A CAL 3)+1
00024	+060100066137	010		STO T	00114	+060200046663	010	SLW TITL-10
00025	+050000000263	010	13A	CLA 2)+1	00115	+050000000266	010	31A CLA 3)
00026	+060100000351	010		STO KK	00116	+060100000345	010	STO SUM
00027	+050000000263	010	14A	CLA 2)+1	00117	-053400400263	010	32A LXD 2)+1,4
00030	+060100000350	010		STO LL	00120	+056000000354	010	LDQ I
00031	+050000000266	010	15A	CLA 3)	00121	+020000000265	010	MPY 2)+3
00032	+060100065653	010		STO TEMP	00122	+076700000021	00	ALS 17
00033	+050000000266	010	16A	CLA 3)	00123	+062200000131	010	STD 33A2
00034	+060100000345	010		STO SUM	00124	+056000460552	010	33A LDQ 8+1,4
00035	+050000046535	010	17A	CLA BLANK	00125	+026000000270	010	FMP 3)+2
00036	+060100046663	010		STO TITL-10	00126	+030000000345	010	FAD SUM
00037	+050000000264	010	18A	CLA 2)+2	00127	+060100000345	010	STO SUM
00040	+060100046700	010		STO NC	00130	+100056400131	010	33A1 TXI **1,4,46
00041	-050000077462	010	19A	CAL 4)-205	00131	-300000400124	010	33A2 TXL 33A,4
00042	+060000077462	010		STZ 4)-205	00132	+002000000137	010	34A TRA 36A
00043	-010000000044	010	20A	TNZ 2)A	00133	+056000160552	010	35A LDQ 8+1,1
00044	-053400100263	010	21A	LXD 2)+1,1	00134	+026000000270	010	FMP 3)+2
00045	-063400100340	010		SXD C)G1,1	00135	+030000000345	010	FAD SUM
00046	+050000077456	010		CLA NLAST	00136	+060100000345	010	STO SUM
00047	+062200000253	010		STD 49A2	00137	-053400400354	010	36A LXD I,4
00050	-075400100000	00		PXD 0,1	00140	-053400200263	010	LXD 2)+1,2
00051	+060100046677	010		STO NDEG	00141	+050000000354	010	CLA I
00052	+050000046700	010	22A	CLA NC	00142	+062200000204	010	STD 46A2
00053	+040000000263	010		ADD 2)+1	00143	-075400200000	00	PXD 0,2
00054	+060100000347	010		STO NB	00144	+060100000352	010	STO J
00055	+050000146746	010	23A	CLA NCT+1,1	00145	+050000460552	010	37A CLA MB+1,4
00056	+060100046700	010		STO NC	00146	+076000000003	00	SSP
00057	+050000000347	010	24A	CLA NB	00147	+040200065653	010	SUB MTEMP
00060	+060100000337	010		STO 1)+3	00150	+010000000163	010	37A1 TZE 42A
00061	+056000000347	010		LDQ NB	00151	+012000000153	010	TPL 38A
00062	+020000000265	010		MPY 2)+3	00152	+002000000163	010	TRA 42A
00063	+076700000021	00		ALS 17	00153	+050000460552	010	38A CLA 8+1,4
00064	+040200000265	010		SUB 2)+3	00154	+076000000003	00	SSP
00065	+040000000337	010		ADD 1)+3	00155	+060100065653	010	STO TEMP
00066	+060100000337	010		STO 1)+3	00156	+050000000354	010	39A CLA I
00067	-053400200337	010		LXD 1)+3,2	00157	+060100000356	010	STO II

SUBROUTINE UVMAX

00160	+050000000352	010	40A	CLA J	00247	-053400100340	010	LXD C)G1,1
00161	+060100000353	010		STO JJ	00250	+100001100251	010 49A1	TXI *+1,1,1
00162	+002000000201	010	41A	TRA 46A	00251	-063400100340	010	SXD C)G1,1
00163	+050000460552	010	42A	CLA MB+1,4	00252	-063400146677	010	SXD NDEG,1
00164	+076000000003	00		SSP	00253	-300000100052	010 49A2	TXL 22A,1
00165	+040200066137	010		SUB MT	00254	-053400100002	010 50A	LXD \$,1
00166	+010000000201	010	42A1	TZE 46A	00255	-053400200003	010	LXD \$+1,2
00167	+012000000201	010		TPL 46A	00256	-053400400004	010	LXD \$+2,4
00170	-063400400342	010	E1D	SXD C)102,4	00257	+002000400001	00	TRA 1,4
00171	-063400200343	010		SXD C)200,2	00260	+002000000102	010 51	TRA 26A
00172	+050000460552	010	43A	CLA B+1,4	00261	+002000000133	010	TRA 35A
00173	+076000000003	00		SSP	00262	+000006000000	00 21	OCT +000006000000
00174	+060100066137	010		STO T	00263	+000001000000	00	OCT +000001000000
00175	+050000000354	010	44A	CLA I	00264	+000000000000	00	OCT +000000000000
00176	+060100000350	010		STO LL	00265	+000055000000	00	OCT +000055000000
00177	+050000000352	010	45A	CLA J	00266	+000000000000	00 31	OCT +000000000000
00200	+060100000351	010		STO KK	00267	-206025600305	00	OCT -206025600305
			46A	BSS	00270	+014651264555	00	OCT +014651264555
00201	+100055400202	010	46A1	TXI *+1,4,45	00271	+233000000000	00 61	OCT +233000000000
00202	+100001200203	010		TXI *+1,2,1	00272	+000000377777	00	OCT +000000377777
00203	-063400200352	010		SXD J,2	00273	+000000000000	00	OCT +000000000000
00204	-300000200145	010	46A2	TXL 37A,2	00274	+000001000000	00	OCT +000001000000
00205	+100056100206	010		TXI *+1,1,46	00275	+000000000000	00	OCT +000000000000
00206	-063400100341	010		SXD C)100,1	00276	+000000000000	00	OCT +000000000000
00207	-053400200344	010		LXD C)201,2	00277	+077321073460	00	BCD 17,A7)
00210	+100001200211	010		TXI *+1,2,1	00300	+037325011133	00	BCD 13,E19.
00211	-063400200344	010		SXD C)201,2	00301	+057325010533	00	BCD 15,E15.
00212	-063400200354	010		SXD I,2	00302	+053303730231	00	BCD 15.3,21
00213	-300000200101	010	46A4	TXL 25A,2	00303	+023105732501	00	BCD 1215,E1
00214	+050000006563	010	47A	CLA TEMP	00304	+250105330373	00	BCD 1E15.3,
00215	+024100066137	010		FDP T	00305	-343103730147	00 81S5	BCD 1113,1P
00216	-060000000346	010		STQ RT	00306	+346060606060	00	BCD 11
00217	-050000000262	010	48A	CAL 2)	00307	+254362336161	00	BCD 1E15.//
00220	+007400400000	010		TSX (STH),4	00310	-202431212733	00	BCD 1 DIAG.
00221	+000000000305	010		PZE 81S5	00311	+043062644473	00	BCD 14HSUM,
00222	+056000046677	010	49A	LDQ NDEG	00312	-233146106701	00	BCD 1T108X1
00223	-100000000000	00		STR	00313	+106705305121	00	BCD 18X5HRA
00224	+056000066137	010		LDQ T	00314	-266060234643	00	BCD 1W CQL
00225	-100000000000	00		STR	00315	-046060605146	00	BCD 1M RO
00226	+056000000350	010		LDQ LL	00316	-042167314464	00	BCD 1MAXIMU
00227	-100000000000	00		STR	00317	-030767011030	00	BCD 1L7X18H
00230	+056000000351	010		LDQ KK	00320	-066660602346	00	BCD 1QW CO
00231	-100000000000	00		STR	00321	-244460606051	00	BCD 1UM R
00232	+056000065653	010		LDQ TEMP	00322	+304431453144	00	BCD 1HMINIM
00233	-100000000000	00		STR	00323	+252706670110	00	BCD 1EG6X18
00234	+056000000356	010		LDQ II	00324	+026104300024	00	BCD 12/4HOD
00235	-100000000000	00		STR	00325	-114664273031	00	BCD 1ROUGH1
00236	+056000000353	010		LDQ JJ	00326	-226001606330	00	BCD 1S 1 TH
00237	-100000000000	00		STR	00327	+242527512525	00	BCD 1DEGREE
00240	+056000000346	010		LDQ RT	00330	-235131677360	00	BCD 1TRIX,
00241	-100000000000	00		STR	00331	+006465604421	00	BCD 1OUV MA
00242	+056000000345	010		LDQ SUM	00332	+300061021130	00	BCD 1HO/29H
00243	-100000000000	00		STR	00333	-340130006101	00 81S4	BCD 11HO/1
00244	+056000046663	010		LDQ TITL-10				
00245	-100000000000	00		STR				
00246	+007400400001	010		TSX (FIL),4				

SUBROUTINE PRESID

	SUBROUTINE PRESID	PRESID 1
	DIMENSION NT(48),TEST(8),MTEST(8),XX(8),MXX(8),SSRED(8,8),MSRED(8,8),NCT(16),NCOE(9),ZNAME(12),TITL(12),NVJ(8),TIM(4),TIT(6,12)	PRESID 2
		PRESID 3
D	DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)	PRESID 4
	1,MC(1312),B(45,45),MB(45,45),Y(45,8),MY(45,8),X(11),MX(11),DET(1)	PRESID 5
	2MDET(1),XNORM(2),NORM(2),SSUM(8),MSUM(8),SAV(45),MSAV(45),SCA(10)	PRESID 6
	1MSCA(10)	PRESID 7
	COMMON NT,A,T,TEMP,C,B,Y,X,XX,DET,XNORM,SSUM,SSRED,SCA,SAV,NCT,	PRESID 8
	1NCOE,ZNAME,NC,NDEG,IERR,TITL,NVJ,TIM,TIT,BLANK,IER,LINE,NSAVE,	PRESID 9
	2NVSAV,MSV,MSV2,NLST,NC2,NV2,NV3	PRESID10
	DIMENSION XMN(8),MN(8)	PRESID11
D	DIMENSION SQX(8,8),SQRES(8,8)	PRESID12
D	DIMENSION XCOMP(3),RESID(3)	PRESID13
	DIMENSION DFF(3),PCT(3)	PRESID14
	COMMON LAST,NCM,NCM2,NV1,NKOUNT,NN1,LA,LB,K,NVEND,NC1,LL,I,LLA,J,	PRESID15
	1ILA,NCLA,NTEST,LABEL,JLB,NB,II,NNN	PRESID16
	EQUIVALENCE (NCOE,NT(1)),(NV,NT(2)),(NFIRST,NT(3)),(NLA,NT(4))	PRESID17
	1,(NRESET,NT(5)),(Q,NT(36)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP	PRESID18
	2,MTEMP),(C,MC),(B,MB)	PRESID19
	EQUIVALENCE (Y,MY,SQX),(Y(129),SQRES),(Y(275),XCOMP),(Y(263),RESID	PRESID20
	1),(Y(269),DFF),(Y(272),PCT),(Y(275),XMN,MN)	PRESID21
	EQUIVALENCE (X,MX),(XX,MXX),(DET,MDET),(XNORM,NOR	PRESID22
	3M),(SSUM,MSUM),(SSRED,MSRED),(SCA,MSCA),(SAV,MSAV)	PRESID23
	EQUIVALENCE (MN1,XMN1)	PRESID24
	NLA=NLA	PRESID25
	LAST=XMINOF(NLA,NT(18))	PRESID26
	IF (NFIRST=LAST) 5,5,160	PRESID27
5	IF (NT(29)) 7,7,6	PRESID28
6	TIM(3)=TIMEF(0)	PRESID29
7	NCM=NCT(LAST)	PRESID30
	NCM2=NCT(NLAST)	PRESID31
	NV1=NV-1	PRESID32
	IJK=1	PRESID33
	NKOUNT=B(1)*.5	PRESID34
	NN1=NKOUNT	PRESID35
	IF ((NKOUNT*NCM)-4770) 15,15,10	PRESID36
10	NKOUNT=((4770/NCM)/50)*50	PRESID37
	IJK=2	PRESID38
15	IF (NKOUNT=450) 20,20,19	PRESID39
19	NKOUNT=450	PRESID40
	IJK=2	PRESID41
20	REWIND 3	PRESID42
	DO 22 I=1,NCM2	PRESID43
22	WRITE TAPE 3,(B(I,J),B(I,J+45),J=I,NCM2)	PRESID44
	DO 23 J=1,NV	PRESID45
23	WRITE TAPE 3,(Y(I,J),Y(I,J+8):I=1,NCM2)	PRESID46
	REWIND 3	PRESID47
	DO 24 I=4,6	PRESID48
	RESID(I)=0.	PRESID49
24	XCOMP(I)=0.	PRESID50
	DO 25 J=1,NV	PRESID51
	IF (NT(8)) 1,1,2	PRESID52
	1 MN(J)=0	PRESID53
	GO TO 3	PRESID54
	2 MN(J)=MSCA(J+2)+MSCA(J+2)	PRESID55
	3 MN1=MN(J)+MY(1,J)	PRESID56

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SUBROUTINE PRESID
      XMN1=(XMN1*Y(I,J))/B(I)
      MXX(J)=MN(J)+MSUM(J)
      XMN(J)=XX(J)-XMN1
      DO 25 I=1, LAST
D      SQRES(I,J)=0.
D 25  SQX(I,J)=0.
      GO TO 30
27  NN1=NN1-NKOUNT
      IF (NN1=NKOUNT) 28,29,30
28  NKOUNT=NN1
29  IJK=1
30  LA=0
      LB=1
      K=1
      GO TO 35
32  K=K+1
      LA=LA+NCM
      LB=LB+9
35  NVEND=LB+NV1
      A(LA+1)=1.
      READ TAPE 2, B(LB+8),A(LA+2),A(LA+3),(B(I),I=LB,NVEND)
      DO 40 NDEG=2, LAST
      NC=NCT(NDEG)
      NC1=NC-1
      LL=NC-NDEG
      DO 39 L=LL, NC1
      I=L-NDEG
      ILA=LA+I
      LLA=LA+L
39  A(LLA)=A(ILA)*A(LA+2)
      NCLA=LA+NC
40  A(NCLA)=A(ILA)*A(LA+3)
      IF (NKOUNT=K) 45,45,32
45  J=0
47  J=J+1
      DO 90 NBEG=NFIRST, LAST, 3
      NNN=NBEG-1
      NTEST=NBEG+2
      IF (LAST=NTEST) 51,52,52
51  LABEL=LAST-NTEST+3
      NTEST=LAST
      GO TO 53
52  LABEL=3
53  K=1
      LA=0
      LB=0
      LINE=50
      GO TO 62
60  LA=LA+NCM
      LB=LB+9
      K=K+1
62  JLB=J+LB
      NDEG=NBEG-1
      DO 66 JI=1, LABEL
      XCOMP(JI)=0.
      NDEG=NDEG+1
PRESID57
PRESID58
PRESID59
PRESID60
PRESID61
PRESID62
PRESID63
PRESID64
PRESID65
PRESID66
PRESID67
PRESID68
PRESID69
PRESID70
PRESID71
PRESID72
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PRESID00
PRESID01
PRESID02
PRESID03
PRESID04
PRESID05
PRESID06
PRESID07
PRESID08
PRESID09
PRESID10
PRESID11
PRESID12

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	SUBROUTINE PRESID	
	NC=NCT(NDEG)	PRESID13
	NB=NCOE(NDEG)+J*NC-NC	PRESID14
	DO 65 I=1,NC	PRESID15
	NB=NB+1	PRESID16
	ILA=LA+1	PRESID17
	65 XCOMP(JI)=XCOMP(JI)+C(NB)*A(ILA)	PRESID18
	RESID(JI)=B(JLB)-XCOMP(JI)	PRESID19
	II=JI+NNN	PRESID20
D	SQX(II,J)=SQX(II,J)+XCOMP(JI)*XCOMP(JI)	PRESID21
D	66 SQRES(II,J)=SQRES(II,J)+RESID(JI)*RESID(JI)	PRESID22
	IF (50-LINE) 67,67,68	PRESID23
	67 CALL TIT1(LABEL,NBEG,NTEST,TIT(1,J),NVJ(J))	PRESID24
	CALL TIT2(LABEL)	PRESID25
	LINE=0	PRESID26
	68 WRITE OUTPUT TAPE 6, 904, B(LB+9), A(LA+2), A(LA+3), B(JLB),	PRESID27
	1 XCOMP(I), RESID(I), I=1,LABEL)	PRESID28
	LINE=LINE+1	PRESID29
	IF (NKOUNT=K) 69,69,60	PRESID30
	69 GO TO (70,73),IJK	PRESID31
	73 WRITE OUTPUT TAPE 6,900,NVJ(J),NBEG,NTEST	PRESID32
	GO TO 90	PRESID33
	70 IF (44-LINE) 71,72,72	PRESID34
	71 CALL TIT1(LABEL,NBEG,NTEST,TIT(1,J),NVJ(J))	PRESID35
	72 WRITE OUTPUT TAPE 6,905, Xx(J), (SQX(I,J),SQRES(I,J),I=NBEG,NTEST)	PRESID36
	WRITE OUTPUT TAPE 6, 906, (SSRED(I,J),I=NBEG,NTEST)	PRESID37
	DO 80 I=1,LABEL	PRESID38
	II=NNN+I	PRESID39
	PCT(I)=100.*((XMN(J)=SQRES(II,J))/XMN(J))	PRESID40
80	DIFF(I)=SSRED(II,J)-PCT(I)	PRESID41
	WRITE OUTPUT TAPE 6, 907, (PCT(I),I=1,LABEL)	PRESID42
	WRITE OUTPUT TAPE 6, 908, (DIFF(I),I=1,LABEL)	PRESID43
	90 CONTINUE	PRESID44
	IF (NV=J) 95,95,47	PRESID45
	95 GO TO (105,27),IJK	PRESID46
105	REWIND 2	PRESID47
	DO 110 I=1,NCM2	PRESID48
	READ TAPE 3,(B(I,J),B(I,J+45),J=1,NCM2)	PRESID49
	DO 110 J=2,I	PRESID50
D	110 B(I,J-1)=B(J-1,I)	PRESID51
	DO 120 J=1,NV	PRESID52
	120 READ TAPE 3, (Y(I,J),Y(I,J+8),I=1,NCM2)	PRESID53
	REWIND 3	PRESID54
	125 IF (NT(29)) 127,127,126	PRESID55
	126 TIM(3)=TIMEF(0)-TIM(3)	PRESID56
	127 RETURN	PRESID57
	160 WRITE OUTPUT TAPE 6, 909,NFIRST,NT(18)	PRESID58
	TIM(3)=0.	PRESID59
	GO TO 125	PRESID60
	900 FORMAT(1H015X12HOUTPUT FOR XI2,9H, DEGREES I2,8H THROUGH I2,19H, WIL	PRESID61
	1L BE CONTINUED)	PRESID62
904	FORMAT(1XA4,9F13,3)	PRESID63
905	FORMAT(1H0/1H011X14NSUM OF SQUARES5X1P7E13,4)	PRESID64
906	FORMAT(1H0/1H 11X14HPCT, REDUCTION10X8HORIGINAL3F26,3)	PRESID65
907	FORMAT(1H033X10HRECOMPUTED3F26,3)	PRESID66
908	FORMAT(1H033X10HDIFFERENCE3F26,3)	PRESID67
909	FORMAT(1H0/53H0CONTROL CARD ERROR. RESIDUALS REQUESTED FOR DEGREE	PRESID68

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SUBROUTINE PRESID  
1S12,8H THROUGH12)  
END(1,1,0,0,0,0,0,1,0,1,0,0,0,0,0)
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PRESID69

SUBROUTINE PRESID

00000	-233144256060	00	TIME	BCD	1TIME	00070	+063400201773	010	SXD	C)G1,2
00001	-345166633460	00	(RWT)	BCD	1(RWT)	00071	+050000077457	010	24A	CLA NFIRST
00002	-346263223460	00	(STB)	BCD	1(STB)	00072	+040200046522	010		SUB LAST
00003	-346643513460	00	(WLR)	BCD	1(WLR)	00073	+010000000075	010	24A1	TZE 25A
00004	-346362223460	00	(TSB)	BCD	1(TSB)	00074	+012000001603	010		TPL 202A
00005	-345143513460	00	(RLR)	BCD	1(RLR)	00075	+050000077425	010	25A	CLA NT=28
00006	-342426444734	00	(DFMP)	BCD	1(DFMP)	00076	+010000000106	010	25A1	TZE 27A
00007	-342426212434	00	(DFAD)	BCD	1(DFAD)	00077	+012000000101	010		TPL 26A
00010	-233163016060	00	TIT1	BCD	1TIT1	00100	+002000000106	010		TRA 27A
00011	-233163026060	00	TIT2	BCD	1TIT2	00101	+050000001650	010	26A	CLA 2)
00012	-346263303460	00	(STH)	BCD	1(STH)	00102	+063400401677	010		SXD 6) *4,4
00013	-342631433460	00	(FIL)	BCD	1(FIL)	00103	+007400400000	010		TSX TIME,4
00014	+000000000000	00	\$	PZE		00104	+053400401677	010		LXD 6) *4,4
00015	+000000000000	00		PZE		00105	+060100046647	010		STC TIM=2
00016	+000000000000	00		PZE		00106	+050000246746	010	27A	CLA NCT+1,2
00017	-075125623124	00		BCD	1PRESID	00107	+060100046521	010		STC NCM
00020	-063400100014	010		SXD	\$,1	00110	+050000446746	010	28A	CLA NCT+1,4
00021	-063400200015	010		SXD	\$+1,2	00111	+060100046520	010		STC NCM2
00022	-063400400016	010		SXD	\$+2,4	00112	+050000077460	010	29A	CLA NV
00023	+050000000002	00	1A	CLA	Z	00113	+040200001651	010		SUB 2)+1
00024	+060100001700	010		STC	6)+5	00114	+060100046517	010		STC NV1
00025	+007400401622	010		TSX	A)103,4	00115	+050000001651	010	30A	CLA 2)+1
00026	-053400102013	010		LXD	C)103,1	00116	+060100002027	010		STC IJK
00027	+007400401637	010		TSX	A)104,4	00117	+053400402027	010		LXD IJK,4
00030	-053400202014	010		LXD	C)104,2	00120	+050000060551	010	31A	CLA B
00031	-053400446522	010		LXD	LAST,4	00121	+030000001665	010		FAD 3)
00032	-063400401773	010		SXD	C)G1,4	00122	+030000001673	010		UFA 6)
00033	-053400446504	010		LXD	J,4	00123	+076500000000	00		LRS
00034	-063400401776	010		SXD	C)G4,4	00124	+032000001674	010		ANA 6)+1
00035	-053400446514	010		LXD	LA,4	00125	+076300000000	00		LLS
00036	-063400401777	010		SXD	C)G5,4	00126	+076700000022	00		ALS 18
00037	-053400446513	010		LXD	LB,4	00127	+060100046516	010		STC NKGUNT
00040	-063400402000	010		SXD	C)G6,4	00130	+050000046516	010	32A	CLA NKGUNT
00041	-053400446677	010		LXD	NDEG,4	00131	+060100046515	010		STC NN1
00042	-063400402001	010		SXD	C)G7,4	00132	+056000046516	010	33A	LDQ NKGUNT
00043	-053400446505	010		LXD	LLA,4	00133	+020000046521	010		MPY NCM
00044	-063400402002	010		SXD	C)G8,4	00134	+076700000021	00		ALS 17
00045	-053400446503	010		LXD	ILA,4	00135	+040200001652	010		SUB 2)+2
00046	-063400402003	010		SXD	C)G9,4	00136	+010000000162	010	33A1	TZE E)5
00047	-053400446502	010		LXD	NCLA,4	00137	+012000000141	010		TPL 34A
00050	-063400402004	010		SXD	C)GA,4	00140	+002000000162	010		TRA E)5
00051	-053400446476	010		LXD	NB,4	00141	+050000001652	010	34A	CLA 2)+2
00052	-063400402006	010		SXD	C)GC,4	00142	+076500000043	00		LRS 35
00053	-053400446477	010		LXD	JLB,4	00143	+022100046521	010		DVP NCM
00054	-063400402007	010		SXD	C)GD,4	00144	+076000000000	00		CLM
00055	+050000077456	010	22A	CLA	NLAST	00145	+076300000022	00		LLS 18
00056	+060100077456	010		STC	NLAST	00146	+013100000000	00		XCA
00057	-053400477456	010		LXD	NLAST,4	00147	+076500000043	00		LRS 35
00060	-063400401774	010		SXD	C)G2,4	00150	+022100001653	010		DVP 2)+3
00061	+056000077456	010	23A	LDQ	NLAST	00151	+076000000000	00		CLM
00062	+050000077440	010		CLA	NT-17	00152	+076300000022	00		LLS 18
00063	+004000000065	010		TLQ	*+2	00153	+020000001653	010		MPY 2)+3
00064	+056000077440	010		LDQ	NT-17	00154	+076700000021	00		ALS 17
00065	+013100000000	00		XCA		00155	+060100046516	010		STC NKGUNT
00066	+060100046522	010		STC	LAST	00156	+050000001654	010	35A	CLA 2)+4
00067	-053400246522	010		LXD	LAST,2	00157	+060100002027	010		STO IJK

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00160	-053400402027	010	LXD	IJK,4	00250	+056000077460	010	LDQ	NV
00161	+002000000163	010	TRA	36A	00251	+020000001663	010	MPY	2)+11
00162	-063400402010	010	SXD	C)GE,4	00252	+076700000021	00	ALS	17
00163	+050000046516	010	CLA	NKCUNT	00253	+062200000304	010	STD	51A4
00164	+040200001655	010	SUB	2)+5	00254	+050000046520	010	CLA	NCM2
00165	+010000000177	010	TZE	E)7	00255	+040200001676	010	SUB	6)+3
00166	+012000000170	010	TPH	37A	00256	+062200000303	010	STD	51A3
00167	+002000000177	010	TRA	E)7	00257	+040000001663	010	ADD	2)+11
00170	+050000001655	010	CLA	2)+5	00260	+062200000301	010	STD	51A1
00171	+060100046516	010	STC	NKCUNT	00261	+050000046520	010	CLA	NCM2
00172	+050000001654	010	CLA	2)+4	00262	+062200000275	010	STD	49A3
00173	+060100002027	010	STC	IJK	00263	-050000001656	010	47A	CAL 2)+6
00174	-053400402027	010	LXD	IJK,4	00264	-063400401677	010	SXD	6)+4,4
00175	-063400402010	010	SXD	C)GE,4	00265	+007400400002	010	TSX	(STB),4
00176	+002000000200	010	TRA	39A	00266	-053400401677	010	LXD	6)+4,4
00177	-063400402010	010	E)7	SXD C)GE,4				48A	BSS
00200	-050000001656	010	39A	CAL 2)+6	00267	+056000450630	010	49A	LDQ Y+1,4
00201	+007400400001	010	TSX	(RWT),4	00270	-100000000000	00	STR	
00202	-053400401651	010	40A	LXD 2)+1,4	00271	+056000450060	010	LDQ	Y=359,4
00203	-063400402016	010	SXD	C)201,4	00272	-100000000000	00	STR	
00204	+050000046520	010	CLA	NCM2	00273	+100001400274	010	49A1	TXI **+1,4,1
00205	+062200000244	010	STD	45A2	00274	-300000400267	010	49A2	TXL 49A,4
00206	-075400400000	00	PXD	0,4	00275	+200000400276	010	49A3	TIX **+1,4
00207	+060100046506	010	STC	I	00276	-063400401677	010	51A	SXD 6)+4,4
00210	-050000001656	010	41A	CAL 2)+6	00277	+007400400003	010	TSX	(WLR),4
00211	-063400401677	010	SXD	6)+4,4	00300	-053400401677	010	LXD	6)+4,4
00212	+007400400002	010	TSX	(STB),4	00301	+100000400302	010	51A1	TXI **+1,4
00213	-053400401677	010	LXD	6)+4,4	00302	-063400400274	010	SXD	49A2,4
00214	+050000046506	010	42A	CLA I	00303	+200000400304	010	51A3	TIX **+1,4
00215	+060100001772	010	STC	1)+3	00304	-300000400263	010	51A4	TXL 47A,4
00216	+056000046506	010	LDQ	I	00305	-050000001656	010	52A	CAL 2)+6
00217	+020000001663	010	MPY	2)+11	00306	+007400400001	010	TSX	(RWT),4
00220	+076700000021	00	ALS	17	00307	-053400401664	010	53A	LXD 2)+12,4
00221	+040200001663	010	SUB	2)+11	00310	+050000001666	010	54A	CLA 3)+1
00222	+040000001772	010	ADD	1)+3	00311	+060100450222	010	STO	RESID+1,4
00223	+060100001772	010	STC	1)+3	00312	+050000001666	010	55A	CLA 3)+1
00224	-053400101772	010	LXD	1)+3,1	00313	+060100450230	010	STC	XCOMP+1,4
00225	-053400246506	010	LXD	I,2	00314	+100001400315	010	55A1	TXI **+1,4,1
00226	+050000046520	010	CLA	NCM2	00315	-300006400310	010	55A2	TXL 54A,4,6
00227	+062200000236	010	STD	43A2	00316	-053400401651	010	56A	LXD 2)+1,4
00230	+056000160552	010	43A	LDQ B+1,1	00317	-063400402012	010	SXD	C)102,4
00231	-100000000000	00	STR		00320	+050000046522	010	CLA	LAST
00232	+056000154601	010	LDQ	B=2024,1	00321	+062200000411	010	STD	67A2
00233	-100000000000	00	STR		00322	+050000046522	010	CLA	LAST
00234	+100055100235	010	43A1	TXI **+1,1,45	00323	+040200001676	010	SUB	6)+3
00235	+100001200236	010	TXI	**+1,2,1	00324	+062200000415	010	STD	67A6
00236	-300000200230	010	43A2	TXL 43A,2	00325	+040000001662	010	ADD	2)+10
00237	-063400401677	010	45A	SXD 6)+4,4	00326	+062200000413	010	STD	67A4
00240	+007400400003	010	TSX	(WLR),4	00327	+050000046522	010	CLA	LAST
00241	-053400401677	010	LXD	6)+4,4	00330	+062200000412	010	STD	67A3
00242	+100001400243	010	45A1	TXI **+1,4,1	00331	-053400101651	010	LXD	2)+1,1
00243	-063400446506	010	SXD	I,4	00332	-063400101776	010	SXD	C)G4,1
00244	-300000400210	010	45A2	TXL 41A,4	00333	+050000077460	010	CLA	NV
00245	-053400401651	010	46A	LXD 2)+1,4	00334	+062200000420	010	STD	67A7
00246	+050000046520	010	CLA	NCM2	00335	-053400201651	010	LXD	2)+1,2
00247	+062200000274	010	STD	49A2	00336	-063400202011	010	SXD	C)101,2

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00337	+050000077452	010	57A	CLA NT=7	00426	+040200046516	010	SUB NKCUNT
00340	+010000000342	010	57A1	TZE 58A	00427	+010000000433	010	70A1 TZE 72A
00341	+012000000345	010		TPL E)K	00430	+012000000437	010	TPL 73A
00342	+050000001650	010	58A	CLA 2)	00431	+050000046515	010	71A CLA NN1
00343	+060100150206	010		STC MN+1,1	00432	+060100046516	010	STC NKCUNT
00344	+002000000353	010	59A	TRA 61A	00433	+050000001651	010	72A CLA 2)+1
00345	-063400402012	010	E)K	SXD C)102,4	00434	+060100002027	010	STC IJK
00346	-063400202011	010		SXD C)101,2	00435	-053400402027	010	LXD IJK,4
00347	-063400101776	010		SXD C)G4,1	00436	-063400402010	010	SXD C)GE,4
00350	+050000147122	010	60A	CLA MSCA=1,1	00437	+050000001650	010	73A CLA 2)
00351	+040000147122	010		ADD MSCA=1,1	00440	+060100046514	010	STC LA
00352	+060100150206	010		STC MN+1,1	00441	-053400146514	010	LXD LA,1
00353	+050000150206	010	61A	CLA MN+1,1	00442	-063400101777	010	SXD C)G5,1
00354	+040000250630	010		ADD MY+1,2	00443	+050000001651	010	74A CLA 2)+1
00355	+060100002030	010		STC MN1	00444	+060100046513	010	STC LB
00356	+056000002030	010	62A	LDQ XMN1	00445	-053400246513	010	LXD LB,2
00357	+026000250630	010		FMP Y+1,2	00446	-063400202000	010	SXD C)G6,2
00360	+024100060551	010		FDP B	00447	+050000001651	010	75A CLA 2)+1
00361	-060000002030	010		STQ XMN1	00450	+060100046512	010	STC K
00362	+050000150206	010	63A	CLA MN+1,1	00451	+002000000470	010	76A TRA 80A
00363	+040000147244	010		ADD MSUM+1,1	00452	+050000046512	010	77A CLA K
00364	+060100147262	010		STC MXX+1,1	00453	+040000001651	010	ADD 2)+1
00365	+050000147262	010	64A	CLA XX+1,1	00454	+060100046512	010	STC K
00366	+030200002030	010		FSB XMN1	00455	+050000046514	010	78A CLA LA
00367	+060100150206	010		STC XMN+1,1	00456	+040000046521	010	ADD NCM
			65A	BSS	00457	+060100046514	010	STC LA
00370	+050000001670	010	66A	CLA 3)+3	00460	-053400146514	010	LXD LA,1
00371	+060100077777	010		STC 4)	00461	-063400101777	010	SXD C)G5,1
00372	+050000001667	010		CLA 3)+2	00462	+050000046513	010	79A CLA LB
00373	+060100077776	010		STC 4)-1	00463	+040000001657	010	ADD 2)+7
00374	+050000077777	010		CLA 4)	00464	+060100046513	010	STC LB
00375	+060100450430	010		STC SQRES+1,4	00465	-053400446513	010	LXD LB,4
00376	+050000077776	010		CLA 4)-1	00466	-063400402000	010	SXD C)G6,4
00377	+060100450330	010		STC SQRES=63,4	00467	-053400202000	010	D)20U LXD C)G6,2
00400	+050000001667	010	67A	CLA 3)+2	00470	+050000046513	010	80A CLA LB
00401	+060100077777	010		STC 4)	00471	+040000046517	010	ADD NV1
00402	+050000001666	010		CLA 3)+1	00472	+060100046511	010	STC NVEND
00403	+060100077776	010		STC 4)-1	00473	+050000001671	010	81A CLA 3)+4
00404	+050000077777	010		CLA 4)	00474	+060100177401	010	STC A,1
00405	+060100450630	010		STC SQX+1,4	00475	-050000001654	010	82A CAL 2)+4
00406	+050000077776	010		CLA 4)-1	00476	+007400400004	010	TSX (TSB),4
00407	+060100450530	010		STC SQX=63,4	00477	-100000000000	00	83A STR
00410	+100001400411	010	67A1	TXI *+1,4,1	00500	-060000260542	010	STQ B=7,2
00411	-300000400370	010	67A2	TXL 66A,4	00501	-100000000000	00	STR
00412	+200000400413	010	67A3	TXI *+1,4	00502	-060000177400	010	STQ A=1,1
00413	+100000400414	010	67A4	TXI *+1,4	00503	-100000000000	00	STR
00414	-063400400411	010		SXD 67A2,4	00504	-060000177377	010	STQ A=2,1
00415	+200000400416	010	67A6	TXI *+1,4	00505	-053400446513	010	84A LXD LB,4
00416	+100001100417	010		TXI *+1,1,1	00506	+050000046511	010	CLA NVEND
00417	+100055200420	010		TXI *+1,2,45	00507	+062200000513	010	STD 85A2
00420	-300000100337	010	67A7	TXL 57A,1	00510	-100000000000	00	85A STR
00421	+002000000437	010	68A	TRA 73A	00511	-060000460552	010	STQ B+1,4
00422	+050000046515	010	69A	CLA NN1	00512	+100001400513	010	85A1 TXI *+1,4,1
00423	+040200046516	010		SUB NKCUNT	00513	-300000400510	010	85A2 TXL 85A,4
00424	+060100046515	010		STC NN1				87A BSS
00425	+050000046515	010	70A	CLA NN1	00514	+007400400005	010	TSX (RLR),4

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00515	-053400401654	010	88A	LXD 2)*4,4	00605	+050000046516	010	99A	CLA NRCUNT
00516	-063400402001	010		SXD C)G7,4	00606	+040200046512	010		SUB K
00517	+050000046522	010		CLA LAST	00607	+010000000611	010	99A1	TZE 100A
00520	+062200000604	010		STD 98A2	00610	+012000000452	010		TPL 77A
00521	-075400400000	00		PXD 0,4	00611	+050000001650	010	100A	CLA 2)
00522	+060100046677	010		STC NDEG	00612	+060100046504	010		STC J
00523	-053400202003	010	D)211	LXD C)G9,2	00613	+007400401622	010		TSX A)103,4
00524	+050000446746	010	89A	CLA NCT+1,4	00614	-053400402013	010		LXD C)103,4
00525	+060100046700	010		STC NC	00615	-063400401677	010		SXD 6)*4,4
00526	+05000046700	010	90A	CLA NC	00616	+007400401637	010		TSX A)104,4
00527	+040200001651	010		SUB 2)*1	00617	-053400402014	010		LXD C)104,4
00530	+060100046510	010		STC NC1	00620	-063400401677	010		SXD 6)*4,4
00531	+05000046700	010	91A	CLA NC	00621	-053400401677	010		LXD 6)*4,4
00532	+040200046677	010		SUB NDEG	00622	-053400446504	010		LXD J,4
00533	+060100046507	010		STC LL	00623	-063400401776	010		SXD C)G6,4
00534	-053400446507	010	92A	LXD LL,4	00624	+050000046504	010	101A	CLA J
00535	-063400402017	010		SXD C)202,4	00625	+040000001651	010		ADD 2)*1
00536	+050000046510	010		CLA NC1	00626	+060100046504	010		STC J
00537	+062200000566	010		STD 96A2	00627	+007400401622	010		TSX A)103,4
00540	-075400400000	00		PXD 0,4	00630	-053400402013	010		LXD C)103,4
00541	+060100002025	010		STC L	00631	-063400401677	010		SXD 6)*4,4
00542	+050000002025	010	93A	CLA L	00632	+007400401637	010		TSX A)104,4
00543	+040200046677	010		SUB NDEG	00633	-053400102014	010		LXD C)104,1
00544	+060100046506	010		STC I	00634	-053400401677	010		LXD 6)*4,4
00545	+050000046514	010	94A	CLA LA	00635	-053400146504	010		LXD J,1
00546	+040000046506	010		ADD I	00636	-063400101776	010		SXD C)G4,1
00547	+060100046503	010		STC ILA	00637	-053400177457	010	102A	LXD NFRST,1
00550	-053400446503	010		LXD ILA,4	00640	-063400102021	010		SXD C)206,1
00551	-063400402003	010		SXD C)G9,4	00641	+050000046522	010		CLA LAST
00552	+050000046514	010	95A	CLA LA	00642	+062200001415	010		STD 179A2
00553	+040000002025	010		ADD L	00643	-075400100000	00		PXD 0,1
00554	+060100046505	010		STC LLA	00644	+060100002024	010		STC NBEG
00555	-053400246505	010		LXD LLA,2	00645	-053400402010	010	D)417	LXD C)GE,4
00556	-063400202002	010		SXD C)G8,2	00646	+050000002024	010	103A	CLA NBEG
00557	+056000477402	010	96A	LDQ A+1,4	00647	+040200001651	010		SUB 2)*1
00560	+026000177400	010		FMP A=1,1	00650	+060100046474	010		STC NNN
00561	+060100277402	010		STC A+1,2	00651	+050000002024	010	104A	CLA NBEG
00562	-053400402017	010		LXD C)202,4	00652	+040000001654	010		ADD 2)*4
00563	+100001400564	010	96A1	TXI *+1,4,1	00653	+060100046501	010		STC NTEST
00564	-063400402017	010		SXD C)202,4	00654	+050000046522	010	105A	CLA LAST
00565	-063400402025	010		SXD L,4	00655	+040200046501	010		SUB NTEST
00566	-300000400542	010	96A2	TXL 93A,4	00656	+010000000667	010	105A1	TZE 109A
00567	+050000046514	010	97A	CLA LA	00657	+012000000667	010		TPL 109A
00570	+040000046700	010		ADD NC	00660	+050000046522	010	106A	CLA LAST
00571	+060100046502	010		STC NCLA	00661	+040200046501	010		SUB NTEST
00572	-053400446502	010		LXD NCLA,4	00662	+040000001656	010		ADD 2)*6
00573	-063400402004	010		SXD C)GA,4	00663	+060100046500	010		STC LABEL
00574	-053400202003	010		LXD C)G9,2	00664	+050000046522	010	107A	CLA LAST
00575	+056000277402	010	98A	LDQ A+1,2	00665	+060100046501	010		STC NTEST
00576	+026000177377	010		FMP A=2,1	00666	+002000000671	010	108A	TRA 110A
00577	+060100477402	010		STC A+1,4	00667	+050000001656	010	109A	CLA 2)*6
00600	-053400402001	010		LXD C)G7,4	00670	+060100046500	010		STC LABEL
00601	+100001400602	010	98A1	TXI *+1,4,1	00671	+050000001651	010	110A	CLA 2)*1
00602	-063400402001	010		SXD C)G7,4	00672	+060100046512	010		STC K
00603	-063400446677	010		SXD NDEG,4	00673	+050000001650	010	111A	CLA 2)
00604	-300000400524	010	98A2	TXL 89A,4	00674	+060100046514	010		STC LA

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00675	-053400146514	010	LXD LA,1	00765	-053400401651	010	125A	LXD 2)+1,4
00676	-063400101777	010	SXD C)G5,1	00766	-063400402020	010		SXD C)205,4
00677	+050000001650	010	112A CLA 2)	00767	+050000046700	010		CLA NC
00700	+060100046513	010	STC LB	00770	+062200001015	010		STD 128A2
00701	-053400146513	010	LXD LB,1	00771	-075400400000	00		PXD 0,4
00702	-063400102000	010	SXD C)G6,1	00772	+060100046506	010		STC I
00703	+050000001653	010	113A CLA 2)+3	00773	+050000046476	010	126A	CLA NB
00704	+060100046533	010	STC LINE	00774	+040000001651	010		ADD 2)+1
00705	+002000000724	010	114A TRA 118A	00775	+060100046476	010		STC NB
00706	+050000046514	010	115A CLA LA	00776	-053400446476	010		LXD NB,4
00707	+040000046521	010	ADD NCM	00777	-063400402006	010		SXD C)GC,4
00710	+060100046514	010	STC LA	01000	+050000046514	010	127A	CLA LA
00711	-053400446514	010	LXD LA,4	01001	+040000046506	010		ADD I
00712	-063400401777	010	SXD C)G5,4	01002	+060100046503	010		STC ILA
00713	+050000046513	010	116A CLA LB	01003	-053400246503	010		LXD ILA,2
00714	+040000001657	010	ADD 2)+7	01004	-063400202003	010		SXD C)G9,2
00715	+060100046513	010	STC LB	01005	+056000465652	010	128A	LDQ C+1,4
00716	-053400146513	010	LXD LB,1	01006	+026000277402	010		FMP A+1,2
00717	-063400102000	010	SXD C)G6,1	01007	+030000150230	010		FAD XCOMP+1,1
00720	+050000046512	010	117A CLA K	01010	+060100150230	010		STC XCOMP+1,1
00721	+040000001651	010	ADD 2)+1	01011	-053400402020	010		LXD C)205,4
00722	+060100046512	010	STC K	01012	+100001401013	010	128A1	TXI **1,4,1
00723	-053400402010	010	D)41C LXD C)GE,4	01013	-063400402020	010		SXD C)205,4
00724	+050000046504	010	118A CLA J	01014	-063400446506	010		SXD I,4
00725	+040000046513	010	ADD LB	01015	-300000400773	010	128A2	TXL 126A,4
00726	+060100046477	010	STC JLB	01016	-053400402007	010		LXD C)GD,4
00727	-053400146477	010	LXD JLB,1	01017	+050000460552	010	129A	CLA B+1,4
00730	-063400102007	010	SXD C)GD,1	01020	+030200150230	010		FSB XCOMP+1,1
00731	+050000002024	010	119A CLA NBEG	01021	+060100150222	010		STC RESID+1,1
00732	+040200001651	010	SUB 2)+1	01022	+050000002026	010	130A	CLA JI
00733	+060100046677	010	STC NDEG	01023	+040000046474	010		ADD NNN
00734	-053400146677	010	LXD NDEG,1	01024	+060100046475	010		STC II
00735	-063400102001	010	SXD C)G7,1	01025	-063400401677	010		SXD 6)+4,4
00736	-053400101651	010	120A LXD 2)+1,1	01026	+007400401622	010		TSX A)103,4
00737	-063400102005	010	SXD C)GB,1	01027	-053400402013	010		LXD C)103,4
00740	+050000046500	010	CLA LABEL	01030	-063400401677	010		SXD 6)+4,4
00741	+062200001101	010	STD 132A2	01031	-053400401677	010		LXD 6)+4,4
00742	-075400100000	00	PXD 0,1	01032	+056000150230	010	131A	LDQ XCOMP+1,1
00743	+060100002026	010	STC JI	01033	-060000077775	010		STQ 4)=2
00744	+050000001666	010	121A CLA 3)+1	01034	+056000150225	010		LDQ XCOMP=2,1
00745	+060100150230	010	STC XCOMP+1,1	01035	-060000077774	010		STQ 4)=3
00746	+050000046677	010	122A CLA NDEG	01036	+050000000006	010		CLA (DFMP)
00747	+040000001651	010	ADD 2)+1	01037	+060100000002	00		STC 2
00750	+060100046677	010	STC NDEG	01040	-100000150230	010		STR XCOMP+1,1
00751	-053400446677	010	LXD NDEG,4	01041	+000000150225	010		PZE XCOMP=2,1
00752	-063400402001	010	SXD C)G7,4	01042	+050000000007	010		CLA (DFAD)
00753	+050000446746	010	123A CLA NCT+1,4	01043	+060100000002	00		STC 2
00754	+060100046700	010	STC NC	01044	-100000450630	010		STR SQX+1,4
00755	+056000046504	010	124A LDQ J	01045	+000000450530	010		PZE SQX=63,4
00756	+020000046700	010	MPY NC	01046	+056000001700	010		LDQ 6)+5
00757	+076700000021	00	ALS 17	01047	-060000000002	00		STQ 2
00760	+040000046726	010	ADD NCOE+1,4	01050	+050000077777	010		CLA 4)
00761	+040200046700	010	SUB NC	01051	+060100450630	010		STC SQX+1,4
00762	+060100046476	010	STC NB	01052	+050000077776	010		CLA 4)=1
00763	-053400446476	010	LXD NB,4	01053	+060100450530	010		STC SQX=63,4
00764	-063400402006	010	SXD C)GC,4	01054	+056000150222	010	132A	LDQ RESID+1,1

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01055	-060000077775	010	STQ 4)-2	01145	+056000477377	010	LDQ A=2,4
01056	+056000150217	010	LDQ RESID=2,1	01146	-100000000000	00	STR
01057	-060000077774	010	STQ 4)-3	01147	-053400402007	010	LXD C)GD,4
01060	+050000000006	010	CLA (DFMP)	01150	+056000460552	010	LDQ B+1,4
01061	+060100000002	00	STQ 2	01151	-100000000000	00	STR
01062	-100000150222	010	STR RESID+1,1	01152	-053400401651	010 141A	LXD 2)+1,4
01063	+000000150217	010	PZE RESID=2,1	01153	+050000046500	010	CLA LABEL
01064	+050000000007	010	CLA (DFAD)	01154	+062200001162	010	STD 142A2
01065	+060100000002	00	STQ 2	01155	+056000450230	010 142A	LDQ XCGMP+1,4
01066	-100000450430	010	STR SQRES+1,4	01156	-100000000000	00	STR
01067	+000000450330	010	PZE SQRES=63,4	01157	+056000450222	010	LDQ RESID+1,4
01070	+056000001700	010	LDQ 6)+5	01160	-100000000000	00	STR
01071	-060000000002	00	STQ 2	01161	+100001401162	010 142A1	TXI *+1,4,1
01072	+050000077777	010	CLA 4)	01162	-300000401155	010 142A2	TXL 142A,4
01073	+060100450430	010	STQ SQRES+1,4			144A	BSS
01074	+050000077776	010	CLA 4)-1	01163	+007400400013	010	TSX (FIL),4
01075	+060100450330	010	STQ SQRES=63,4	01164	+050000046533	010 145A	CLA LINE
01076	+100001101077	010 132A1	TXI *+1,1,1	01165	+04000001651	010	ADD 2)+1
01077	-063400102005	010	SXD C)GB,1	01166	+060100046533	010	STC LINE
01100	-063400102026	010	SXD JI,1	01167	+050000046516	010 146A	CLA NKOUNT
01101	-300000100744	010 132A2	TXL 121A,1	01170	+040200046512	010	SUB K
01102	+050000001653	010 133A	CLA 2)+3	01171	+010000001173	010 146A1	TZE D)41L
01103	+040200046533	010	SUB LINE	01172	+012000000706	010	TPL 115A
01104	+010000001106	010 133A1	TZE D)11H	01173	-053400402010	010 D)41L	LXD C)GE,4
01105	+012000001133	010	TPL D)11I	01174	+002000401177	010 147A	TRA 147A,3,4
01106	-053400102014	010 D)11H	LXD C)104,1	01175	+002000001177	010	TRA 148A
01107	+075400146646	010 134A	PXA TIT+1,1	01176	+002000001216	010	TRA 151A
01110	+040200001107	010	SUB *-1	01177	-050000001660	010 148A	CAL 2)+8
01111	+062100001123	010	STA 135A+4	01200	-063400401677	010	SXD 6)+4,4
01112	-053400101776	010	LXD C)G4,1	01201	+007400400012	010	TSX (STH),4
01113	+075400146662	010	PXA NVJ+1,1	01202	+000000001766	010	PZE 8)S4
01114	+040200001113	010	SUB *-1	01203	-053400401677	010	LXD 6)+4,4
01115	+062100001124	010	STA 135A+5	01204	+056000146662	010 149A	LDQ NVJ+1,1
01116	-063400401677	010	SXD 6)+4,4	01205	-100000000000	00	STR
01117	+007400400010	010 135A	TSX TIT1,4	01206	+056000002024	010	LDQ NBEG
01120	+007400046500	010	TSX LABEL	01207	-100000000000	00	STR
01121	+007400002024	010	TSX NBEG	01210	+056000046501	010	LDQ NTEST
01122	+007400046501	010	TSX NTEST	01211	-100000000000	00	STR
01123	+007400046645	010	TSX TIT	01212	-063400401677	010	SXD 6)+4,4
01124	+007400046661	010	TSX NVJ	01213	+007400400013	010	TSX (FIL),4
01125	+007400400011	010 137A	TSX TIT2,4	01214	-053400401677	010	LXD 6)+4,4
01126	+007400046500	010	TSX LABEL	01215	+002000001411	010 150A	TRA 179A
01127	-053400401677	010	LXD 6)+4,4	01216	+050000001661	010 151A	CLA 2)+9
01130	+050000001650	010 138A	CLA 2)	01217	+040200046533	010	SUB LINE
01131	+060100046533	010	STQ LINE	01220	+010000001241	010 151A1	TZE 154A
01132	+002000001134	010	TRA 139A	01221	+012000001241	010	TPL 154A
01133	-053400101776	010 D)11I	LXD C)G4,1	01222	-053400402014	010 D)41C	LXD C)104,4
01134	-050000001660	010 139A	CAL 2)+8	01223	+075400446646	010 152A	PXA TIT+1,4
01135	+007400400012	010	TSX (STH),4	01224	+040200001223	010	SUB *-1
01136	+000000001751	010	PZE 8)S8	01225	+062100001236	010	STA 153A+4
01137	-053400402000	010	LXD C)G6,4	01226	+075400146662	010	PXA NVJ+1,1
01140	+056000460541	010 140A	LDQ B=8,4	01227	+040200001226	010	SUB *-1
01141	-100000000000	00	STR	01230	+062100001237	010	STA 153A+5
01142	-053400401777	010	LXD C)G5,4	01231	-063400401677	010	SXD 6)+4,4
01143	+056000477400	010	LDQ A=1,4	01232	+007400400010	010 153A	TSX TIT1,4
01144	-100000000000	00	STR	01233	+007400046500	010	TSX LABEL

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01234	+007400002024	010	TSX NBEG	01322	+062200001350	010	STD 168A2
01235	+007400046501	010	TSX NTEST	01323	-075400200000	00	PXD 0,2
01236	+007400046645	010	TSX TIT	01324	+060100046506	010	STC I
01237	+007400046661	010	TSX NVJ	01325	-053400101775	010	D)51U LXD C)G3,1
01240	-053400401677	010	LXD 6)4,4	01326	-053400401776	010	D)41U LXD C)G4,4
01241	-050000001660	010	154A CAL 2)8	01327	+050000046474	010	166A CLA NNN
01242	+007400400012	010	TSX (STH),4	01330	+040000046506	010	ADD I
01243	+000000001746	010	PZE 8)59	01331	+060100046475	010	STC II
01244	+056000147262	010	155A LDQ XX+1,1	01332	-063400401677	010	SXD 6)4,4
01245	-100000000000	00	STR	01333	+007400401622	010	TSX A)103,4
01246	+050000002024	010	156A CLA NBEG	01334	-053400202013	010	LXD C)103,2
01247	+060100001772	010	STC 1)3	01335	-053400401677	010	LXD 6)4,4
01250	+056000046504	010	LDQ J	01336	+050000450206	010	167A CLA XMN+1,4
01251	+020000001662	010	MPY 2)10	01337	+030200250430	010	FSB SQRES+1,2
01252	+076700000021	00	ALS 17	01340	+024100450206	010	FDP XMN+1,4
01253	+040200001662	010	SUB 2)10	01341	+026000001672	010	FMP 3)5
01254	+040000001772	010	ADD 1)3	01342	+060100150211	010	STC PCT+1,1
01255	+060100001772	010	STC 1)3	01343	+050000247224	010	168A CLA SSRED+1,2
01256	-053400401772	010	LXD 1)3,4	01344	+030200150211	010	FSB PCT+1,1
01257	-053400202024	010	LXD NBEG,2	01345	+060100150214	010	STC OFF+1,1
01260	+050000046501	010	CLA NTEST	01346	+100001101347	010	168A1 TXI *+1,1,1
01261	+062200001270	010	STD 157A2	01347	-063400146506	010	SXD I,1
01262	+056000450630	010	157A LDQ SQX+1,4	01350	-300000101327	010	168A2 TXL 166A,1
01263	-100000000000	00	STR	01351	-050000001660	010	169A CAL 2)8
01264	+056000450430	010	LDQ SQRES+1,4	01352	-063400401677	010	SXD 6)4,4
01265	-100000000000	00	STR	01353	+007400400012	010	TSX (STH),4
01266	+100001401267	010	157A1 TXI *+1,4,1	01354	+000000001727	010	PZE 8)SB
01267	+100001201270	010	TXI *+1,2,1	01355	-053400401677	010	LXD 6)4,4
01270	-300000201262	010	157A2 TXL 157A,2	01356	-053400101651	010	170A LXD 2)1,1
			159A BSS	01357	+050000046500	010	CLA LABEL
01271	+007400400013	010	TSX (FIL),4	01360	+062200001364	010	STD 171A2
01272	-050000001660	010	160A CAL 2)8	01361	+056000150211	010	171A LDQ PCT+1,1
01273	+007400400012	010	TSX (STH),4	01362	-100000000000	00	STR
01274	+000000001737	010	PZE 8)SA	01363	+100001101364	010	171A1 TXI *+1,1,1
01275	+050000002024	010	161A CLA NBEG	01364	-300000101361	010	171A2 TXL 171A,1
01276	+060100001772	010	STC 1)3	01365	-063400401677	010	173A SXD 6)4,4
01277	+056000046504	010	LDQ J	01366	+007400400013	010	TSX (FIL),4
01300	+020000001662	010	MPY 2)10	01367	-053400401677	010	LXD 6)4,4
01301	+076700000021	00	ALS 17	01370	-050000001660	010	174A CAL 2)8
01302	+040200001662	010	SUB 2)10	01371	-063400401677	010	SXD 6)4,4
01303	+040000001772	010	ADD 1)3	01372	+007400400012	010	TSX (STH),4
01304	+060100001772	010	STC 1)3	01373	+000000001722	010	PZE 8)SC
01305	-053400201772	010	LXD 1)3,2	01374	-053400401677	010	LXD 6)4,4
01306	-053400402024	010	LXD NBEG,4	01375	-053400101651	010	175A LXD 2)1,1
01307	+050000046501	010	CLA NTEST	01376	+050000046500	010	CLA LABEL
01310	+062200001315	010	STD 162A2	01377	+062200001403	010	STD 176A2
01311	+056000247224	010	162A LDQ SSRED+1,2	01400	+056000150214	010	176A LDQ OFF+1,1
01312	-100000000000	00	STR	01401	-100000000000	00	STR
01313	+100001201314	010	162A1 TXI *+1,2,1	01402	+100001101403	010	176A1 TXI *+1,1,1
01314	+100001401315	010	TXI *+1,4,1	01403	-300000101400	010	176A2 TXL 176A,1
01315	-300000401311	010	162A2 TXL 162A,4	01404	-063400401677	010	178A SXD 6)4,4
			164A BSS	01405	+007400400013	010	TSX (FIL),4
01316	+007400400013	010	TSX (FIL),4	01406	-053400401677	010	LXD 6)4,4
01317	-053400201651	010	165A LXD 2)1,2	01407	-053400202003	010	D)624 LXD C)G9,2
01320	-063400201775	010	SXD C)G3,2	01410	-053400402010	010	D)424 LXD C)G6,4
01321	+050000046500	010	CLA LABEL				179A BSS

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01411	-053400102021	010		LXD C)206,1	01500	-053400401772	010		LXD 1)+3,4
01412	+100003101413	010	179A1	TXI *+1,1,3	01501	-063400402015	010		SXD C)105,4
01413	-063400102021	010		SXD C)206,1	01502	-053400101654	010		LXD 2)+4,1
01414	-063400102024	010		SXD NBE6,1	01503	-063400102022	010		SXD C)207,1
01415	-300000100646	010	179A2	TXL 103A,1	01504	+050000046506	010		CLA I
01416	+050000077460	010	180A	CLA NV	01505	+062200001523	010		STD 190A2
01417	+040200046504	010		SUB J	01506	-053400102015	010	D)528	LXD C)105,1
01420	+010000001422	010	180A1	TZE 181A	01507	-053400402022	010	D)428	LXD C)207,4
01421	+012000000624	010		TPL 101A	01510	+050000160553	010	190A	CLA B+2,1
01422	+002000401425	010	181A	TRA 181A+3,4	01511	+060100077777	010		STC 4)
01423	+002000000422	010		TRA 69A	01512	+050000154602	010		CLA B-2023,1
01424	-050000001654	010	182A	CAL 2)+4	01513	+060100077776	010		STC 4)-1
01425	-063400401677	010		SXD 6)+4,4	01514	+050000077777	010		CLA 4)
01426	+007400400001	010		TSX (RWT),4	01515	+060100260627	010		STO B+46,2
01427	-053400401677	010		LXD 6)+4,4	01516	+050000077776	010		CLA 4)-1
01430	-053400101651	010	183A	LXD 2)+1,1	01517	+060100254656	010		STC B-1979,2
01431	-063400102023	010		SXD C)20A,1	01520	+100055201521	010	190A1	TXI *+1,2,45
01432	+050000046520	010		CLA NCM2	01521	+100001101522	010		TXI *+1,1,1
01433	+062200001530	010		STD 190A4	01522	+100001401523	010		TXI *+1,4,1
01434	-075400100000	00		PXD 0,1	01523	-300000401510	010	190A2	TXL 190A,4
01435	+060100046506	010		STC I	01524	-053400102023	010		LXD C)20A,1
01436	-050000001656	010	184A	CAL 2)+6	01525	+100001101526	010		TXI *+1,1,1
01437	+007400400004	010		TSX (TSB),4	01526	-063400102023	010		SXD C)20A,1
01440	+050000046506	010	185A	CLA I	01527	-063400146506	010		SXD I,1
01441	+060100001772	010		STC 1)+3	01530	-300000101436	010	190A4	TXL 184A,1
01442	+056000046506	010		LDQ I	01531	-053400101651	010	191A	LXD 2)+1,1
01443	+020000001663	010		MPY 2)+11	01532	+050000046520	010		CLA NCM2
01444	+076700000021	00		ALS 17	01533	+062200001556	010		STD 194A2
01445	+040200001663	010		SUB 2)+11	01534	+056000077460	010		LDQ NV
01446	+040000001772	010		ADD 1)+3	01535	+020000001663	010		MPY 2)+11
01447	+060100001772	010		STC 1)+3	01536	+076700000021	00		ALS 17
01450	-053400201772	010		LXD 1)+3,2	01537	+062200001564	010		STD 196A4
01451	-053400446506	010		LXD I,4	01540	+050000046520	010		CLA NCM2
01452	+050000046520	010		CLA NCM2	01541	+040200001676	010		SUB 6)+3
01453	+062200001462	010		STD 186A2	01542	+062200001563	010		STD 196A3
01454	-100000000000	00	186A	STR	01543	+040000001663	010		ADD 2)+11
01455	-060000260552	010		STQ B+1,2	01544	+062200001561	010		STD 196A1
01456	-100000000000	00		STR	01545	+050000046520	010		CLA NCM2
01457	-060000254601	010		STQ B-2024,2	01546	+062200001557	010		STD 194A3
01460	+100055201461	010	186A1	TXI *+1,2,45	01547	-050000001656	010	192A	CAL 2)+6
01461	+100001401462	010		TXI *+1,4,1	01550	+007400400004	010		TSX (TSB),4
01462	-300000401454	010	186A2	TXL 186A,4				193A	BSS
			188A	BSS	01551	-100000000000	00	194A	STR
01463	+007400400005	010		TSX (RLR),4	01552	-060000150630	010		STQ Y+1,1
01464	+050000046506	010	189A	CLA I	01553	-100000000000	00		STR
01465	+040000001663	010		ADD 2)+11	01554	-060000150060	010		STQ Y-359,1
01466	+060100001772	010		STC 1)+3	01555	+100001101556	010	194A1	TXI *+1,1,1
01467	-053400201772	010		LXD 1)+3,2	01556	-300000101551	010	194A2	TXL 194A,1
01470	+050000001654	010		CLA 2)+4	01557	+200000101560	010	194A3	TIX *+1,1
01471	+060100001772	010		STC 1)+3				196A	BSS
01472	+056000046506	010		LDQ I	01560	+007400400005	010		TSX (RLR),4
01473	+020000001663	010		MPY 2)+11	01561	+100000101562	010	196A1	TXI *+1,1
01474	+076700000021	00		ALS 17	01562	-063400101556	010		SXD 194A2,1
01475	+040200001663	010		SUB 2)+11	01563	+200000101564	010	196A3	TIX *+1,1
01476	+040000001772	010		ADD 1)+3	01564	-300000101547	010	196A4	TXL 192A,1
01477	+060100001772	010		STC 1)+3	01565	-050000001656	010	197A	CAL 2)+6

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01566	+007400400001	010		TSX (RWT),4	01656	+000003000000	00	CCT	+000003000000	
01567	+050000077425	010	198A	CLA NT=28	01657	+000011000000	00	CCT	+000011000000	
01570	+010000001577	010	198A1	TZE 200A	01660	+000006000000	00	CCT	+000006000000	
01571	+012000001573	010		TPL 199A	01661	+000054000000	00	CCT	+000054000000	
01572	+002000001577	010		TRA 200A	01662	+000010000000	00	CCT	+000010000000	
01573	+050000001650	010	199A	CLA 2)	01663	+000055000000	00	CCT	+000055000000	
01574	+007400400000	010		TSX TIME,4	01664	+000004000000	00	CCT	+000004000000	
01575	+030200046647	010		FSB TIM=2	01665	+200400000000	00	3)	CCT	+200400000000
01576	+060100046647	010		STC TIM=2	01666	+000000000000	00	CCT	+000000000000	
01577	-053400100014	010	200A	LXD \$,1	01667	+000000000000	00	CCT	+000000000000	
01600	-053400200015	010		LXD \$+1,2	01670	+000000000000	00	CCT	+000000000000	
01601	-053400400016	010		LXD \$+2,4	01671	+201400000000	00	CCT	+201400000000	
01602	+002000400001	00		TRA 1,4	01672	+207620000000	00	CCT	+207620000000	
01603	-050000001660	010	202A	CAL 2)+8	01673	+233000000000	00	6)	CCT	+233000000000
01604	-063400401677	010		SXD 6)+4,4	01674	+000000377777	00	CCT	+000000377777	
01605	+007400400012	010		TSX (STH),4	01675	+000000000000	00	CCT	+000000000000	
01606	+000000001715	010		PZE 8)SD	01676	+000001000000	00	CCT	+000001000000	
01607	-053400401677	010		LXD 6)+4,4	01677	+000000000000	00	CCT	+000000000000	
01610	+056000077457	010	203A	LDQ NFIRST	01700	+000000000000	00	CCT	+000000000000	
01611	-100000000000	00		STR	01701	+273031023460	00		BCD 16H12)	
01612	+056000077440	010		LDQ NT-17	01702	-206330514664	00		BCD 1 THROU	
01613	-100000000000	00		STR	01703	-223102731030	00		BCD 1SI2,8H	
01614	-063400401677	010		SXD 6)+4,4	01704	+242527512525	00		BCD 1DEGREE	
01615	+007400400013	010		TSX (FIL),4	01705	+246026465160	00		BCD 1D FOR	
01616	-053400401677	010		LXD 6)+4,4	01706	-106425626325	00		BCD 1QUESTE	
01617	+050000001666	010	204A	CLA 3)+1	01707	+214362605125	00		BCD 1ALS RE	
01620	+060100046647	010		STC TIM=2	01710	-112562312464	00		BCD 1RESIDU	
01621	+002000001567	010	205A	TRA 198A	01711	-114651336060	00		BCD 1RCR.	
01622	+050000001676	010	A)103	CLA 6)+3	01712	+215124602551	00		BCD 1ARD ER	
01623	+060100001772	010		STC 1)+3	01713	-235146436023	00		BCD 1TROL C	
01624	+050000046475	010		CLA 11	01714	+033000234645	00		BCD 13HOCGN	
01625	+040200001676	010		SUB 6)+3	01715	-340130006105	00	8)SD	BCD 1(1HO/5	
01626	+040000001772	010		ADD 1)+3	01716	+330334606060	00		BCD 1,3)	
01627	+060100001772	010		STC 1)+3	01717	+232503260206	00		BCD 1CE3F26	
01630	+056000046504	010		LDQ J	01720	+262625512545	00		BCD 1FFEREN	
01631	+020000001662	010		MPY 2)+10	01721	-270100302431	00		BCD 1X10H0I	
01632	+076700000021	00		ALS 17	01722	-340130000303	00	8)SC	BCD 1(1HO33	
01633	+040200001662	010		SUB 2)+10	01723	+330334606060	00		BCD 1,3)	
01634	+040000001772	010		ADD 1)+3	01724	+252403260206	00		BCD 1ED3F26	
01635	+060100002013	010		STC C)103	01725	+234644476463	00		BCD 1COMPUT	
01636	+002000400001	00		TRA 1,4	01726	-270100305125	00		BCD 1X10HRE	
01637	+050000001676	010	A)104	CLA 6)+3	01727	-340130000303	00	8)SB	BCD 1(1HO33	
01640	+060100001772	010		STC 1)+3	01730	+260206330334	00		BCD 1F26,3)	
01641	+056000046504	010		LDQ J	01731	+273145214303	00		BCD 1GINAL3	
01642	+020000001660	010		MPY 2)+8	01732	-271030465131	00		BCD 1X8HORI	
01643	+076700000021	00		ALS 17	01733	-233146450100	00		BCD 1TIGN10	
01644	+040200001660	010		SUB 2)+8	01734	-205125246423	00		BCD 1REDUC	
01645	+040000001772	010		ADD 1)+3	01735	+043047236333	00		BCD 14HPCT.	
01646	+060100002014	010		STC C)104	01736	+306001016701	00		BCD 1H 11X1	
01647	+002000400001	00		TRA 1,4	01737	-340130006101	00	8)SA	BCD 1(1HO/1	
01650	+000000000000	00	2)	CCT	+000000000000	00		BCD 1,4)		
01651	+000001000000	00		CCT	+000001000000	00		BCD 11P7E13		
01652	+011242000000	00		CCT	+011242000000	00		BCD 1ARES5X		
01653	+000062000000	00		CCT	+000062000000	00		BCD 1CF SQU		
01654	+000002000000	00		CCT	+000002000000	00		BCD 14HSUM		
01655	+000702000000	00		CCT	+000702000000	00		BCD 1H011X1		

SUBROUTINE PRESID

01746	-340130006101	00	8)59	BCD 1(1H0/1
01747	+346060606060	00		BCD 1)
01750	+112601033303	00		BCD 19F13.3
01751	-340167210473	00	8)58	BCD 1(1XA4,
01752	+252434606060	00		BCD 1ED)
01753	-064563314564	00		BCD 1CONTINU
01754	-036022256023	00		BCD 1L BE C
01755	+307360663143	00		BCD 1H, WIL
01756	+303102730111	00		BCD 1HI2,19
01757	-233051466427	00		BCD 1THROUG
01760	+310273103060	00		BCD 1I2,8H
01761	+252751252562	00		BCD 1EGREES
01762	-331130736024	00		BCD 1,9H, D
01763	-065160673102	00		BCD 1CR XI2
01764	-234764636026	00		BCD 1TPUT F
01765	-270102304664	00		BCD 1X12HCU
01766	-340130000105	00	8)54	BCD 1(1H015

BINARY CARD NO. TIT10000
 00002
 00043

ENTRY TIT1
 ENTRY TIT2
 MOD MACRO A
 CAL A
 ANA =077770077777
 ORA* 1,4
 SLW A
 MOD END
 WRITE MACRO F
 CAL =06000000
 TSX \$(STH),4
 PZE F,,1
 WRITE END

TIT1 2
 TIT1 3
 TIT1 4
 TIT1 5
 TIT1 6
 TIT1 7
 TIT1 8
 TIT1 9
 TIT1 10
 TIT1 11
 TIT1 12
 TIT1 13
 TIT1 14

TRANSFER VECTOR

BINARY CARD NO. TIT10001

00000 746263303460 (STH)
 00001 742631433460 (FIL)

00002 0634 00 4 00040 TIT1 SXA RET,4
 00003 0634 00 2 00041 SXA RET+1,2
 00004 MOD F2+3
 00010 0500 60 4 00003 CLA* 3,4
 00011 0622 00 0 00036 STD A2
 00012 0500 60 4 00002 CLA* 2,4
 00013 -0734 00 2 00000 PDX ,2
 00014 0500 00 4 00004 CLA 4,4
 00015 0621 00 0 00026 STA A1
 00016 0500 00 4 00005 CLA 5,4
 00017 0621 00 0 00023 STA A1-3
 00020 WRITE F2
 00023 0560 00 0 00000 LDQ **

TIT1 15
 TIT1 16
 TIT1 17
 TIT1 18
 TIT1 19
 TIT1 20
 TIT1 21
 TIT1 22
 TIT1 23
 TIT1 24
 TIT1 25
 TIT1 26
 TIT1 27

BINARY CARD NO. TIT10002

00024 -1 00000 0 00000 STR
 00025 0774 00 4 00000 AXT 0,4
 00026 0560 00 4 00000 A1 LDQ **,4
 00027 -1 00000 0 00000 STR
 00030 1 00001 4 00031 TXI ++1,4,1
 00031 -3 00005 4 00026 TXL *-3,4,5
 00032 -0634 00 2 00056 SXD D1,2
 00033 0560 00 0 00056 LDQ D1
 00034 -1 00000 0 00000 STR
 00035 1 00001 2 00036 TXI ++1,2,1
 00036 -3 00000 2 00032 A2 TXL *-4,2,**
 00037 0074 00 4 00001 TSX \$(FIL),4
 00040 0774 00 4 00000 RET AXT **,4
 00041 0774 00 2 00000 AXT **,2
 00042 0020 00 4 00006 TRA 6,4
 00043 0634 00 4 00054 TIT2 SXA RT2,4
 00044 MOD F3+5
 00050 WRITE F3

TIT1 28
 TIT1 29
 TIT1 30
 TIT1 31
 TIT1 32
 TIT1 33
 TIT1 34
 TIT1 35
 TIT1 36
 TIT1 37
 TIT1 38
 TIT1 39
 TIT1 40
 TIT1 41
 TIT1 42
 TIT1 43
 TIT1 44
 TIT1 45

BINARY CARD NO. TIT10003

00053	0074 00 4 00001	TSX	(FIL),4	TIT1	46
00054	0774 00 4 00000	RT2	AXT ** ,4	TIT1	47
00055	0020 00 4 00002		TRA 2 ,4	TIT1	48
00056	0 00000 0 00000	D1	PZE	TIT1	49
00057	740230016731	F2	BCI 8,(2H1XI2,2H 6A6/42X,3(11X11HD E G R E E14)//)	TIT1	50
00060	027302306060				
00061	062106610402				
00062	677303740101				
00063	670101302460				
00064	256027605160				
00065	256025310434				
00066	616134606060				
00067	740267023031	F3	BCI ,(2X2HID10X1HU12X1HV10X6HX OBS.1X3(5X7HX COMP.6X8HRESIDUAL)//TIT1	51	
00070	240100670130				
00071	640102670130				
00072	650100670630				
00073	676046226233				

BINARY CARD NO. TIT10004

00074	016703740567				
00075	073067602346				
00076	444733066710				
00077	305125623124				
00100	642143346161				
00101	346060606060				
			BCI 1,)	TIT1	52
			END		

LITERALS

00102	000006000000
00103	777700777777

SUBROUTINE RESET(MR)		
SUBROUTINE RESET(MR)		RESET 1
DIMENSION NT(48),B1(12610)		RESET 2
COMMON NT,B1,NDEG,IERR		RESET 3
EQUIVALENCE (NLAST,NT(4)),(NRESET,NT(5))		RESET 4
IF (NRESET-NLAST) 10,10,30		RESET 5
10 MR=2		RESET 6
GO TO 50		RESET 7
30 MR=1		RESET 8
WRITE OUTPUT TAPE 6,901,NLAST,NRESET		RESET 9
IF (NT(19)) 35,35,40		RESET 10
35 IERR=-1		RESET 11
GO TO 50		RESET 12
40 IERR=-2		RESET 13
50 RETURN		RESET 14
901 FORMAT(1H0/55HMAXIMUM DEGREE FOR WHICH COEFFICIENTS CAN BE COMPUTE	RESET 15	
1EC,12,1H,/13HOIS LESS THAN12,31H, MINIMUM RESET VALUE SPECIFIED)	RESET 16	
END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)		

SUBROUTINE RESET(MR)

00000	-346263303460	00	(STH)	BCD 1(STH)	00070	-053144644460	00	BCD 1NIMUM
00001	-342631433460	00	(FIL)	BCD 1(FIL)	00071	+013073604431	00	BCD 11H, MI
00002	+000000000000	00	\$	PZE	00072	+214531027303	00	BCD 1ANIZ,3
00003	+000000000000	00		PZE	00073	+256262606330	00	BCD 1LESS TH
00004	+000000000000	00		PZE	00074	+300031626043	00	BCD 1HOIS L
00005	-112562256360	00		BCD 1RESET	00075	+013073610103	00	BCD 11H, /13
00006	-063400100002	010		SXD \$,1	00076	+252473310273	00	BCD 1ED,12,
00007	-063400200003	010		SXD \$+1,2	00077	+234644476463	00	BCD 1COMPUT
00010	-063400400004	010		SXD \$+2,4	00100	+214560222560	00	BCD 1AN BE
00011	+050000400001	00		CLA 1,4	00101	+254563626023	00	BCD 1ENTS C
00012	+062100000026	010		STA 1A+10	00102	+252626312331	00	BCD 1EFFICI
00013	+062100000023	010		STA 1A+7	00103	+312330602346	00	BCD 1ICH CO
00014	+050000000002	00	1A	CLA 2	00104	+264651606630	00	BCD 1FOR WH
00015	+060100000063	010		STO 6)+5	00105	+252751252560	00	BCD 1EGREE
00016	+050000077455	010	7A	CLA NRESET	00106	+314464446024	00	BCD 1IMUM O
00017	+040200077456	010		SUB NLAST	00107	+053000442167	00	BCD 15HOMAX
00020	+010000000022	010	7A1	TZE 8A	00110	-340130006105	00	8)SS BCD 11HO/5
00021	+012000000025	010		TPL 10A				
00022	+050000000053	010	8A	CLA 2)				
00023	+060100000000	00		STO MR				
00024	+002000000047	010	9A	TRA 17A				
00025	+050000000054	010	10A	CLA 2)+1				
00026	+060100000000	00		STO MR				
00027	-050000000055	010	11A	CAL 2)+2				
00030	+007400400000	010		TSX (STH),4				
00031	+000000000110	010		PZE 8)SS				
00032	+056000077456	010	12A	LDQ NLAST				
00033	-100000000000	00		STR				
00034	+056000077455	010		LDQ NRESET				
00035	-100000000000	00		STR				
00036	+007400400001	010		TSX (FIL),4				
00037	+050000077437	010	13A	CLA NT-18				
00040	+010000000042	010	13A1	TZE 14A				
00041	+012000000045	010		TPL 16A				
00042	+050200000054	010	14A	CLS 2)+1				
00043	+060100046676	010		STO IERR				
00044	+002000000047	010	15A	TRA 17A				
00045	+050200000053	010	16A	CLS 2)				
00046	+060100046676	010		STO IERR				
00047	-053400100002	010	17A	LXD \$,1				
00050	-053400200003	010		LXD \$+1,2				
00051	-053400400004	010		LXD \$+2,4				
00052	+002000400002	00		TRA 2,4				
00053	+000002000000	00	2)	OCT +000002000000				
00054	+000001000000	00		OCT +000001000000				
00055	+000006000000	00		OCT +000006000000				
00056	+233000000000	00	6)	OCT +233000000000				
00057	+000000377777	00		OCT +000000377777				
00060	+000000000000	00		OCT +000000000000				
00061	+000001000000	00		OCT +000001000000				
00062	+000000000000	00		OCT +000000000000				
00063	+000000000000	00		OCT +000000000000				
00064	+312524346060	00		BCD 11ED)				
00065	-224725233126	00		BCD 1SPECIF				
00066	-252143642560	00		BCD 1VALUE				
00067	-112562256360	00		BCD 1RESET				

TRANS -- EXAMPLE OF SUBROUTINE TO TRANSFORM DATA

C	FOUR TRANSFORMATIONS INCLUDED, SO LEGAL CODES ARE 0 THROUGH 4	TRANS 2
C	FIRST CALL CHECKS CODES FOR LEGAL VALUES, SETS ILLEGAL ONES TO 0,	TRANS 3
C	ADDS 1, AND STORES RESULT IN ARRAY NI	TRANS 4
	SUBROUTINE TRANS	TRANS 5
	DIMENSION B1(12394),B2(243),B3(20),NTR(10),B4(24),NI(10),B5(105)	TRANS 6
D	DIMENSION X(11)	TRANS 7
	COMMON B1,X,B2,IERR,B5,NV2,NV3,B3,NTR,B4,NI	TRANS 8
	IF (SENSE LIGHT 1) 1,5	TRANS 9
	1 DO 4 I=1,NV2	TRANS 10
	IF (4-NTR(I)) 2,3,3	TRANS 11
	2 NTR(I)=0	TRANS 12
	3 NI(I)=NTR(I)+1	TRANS 13
	4 CONTINUE	TRANS 14
	GO TO 25	TRANS 15
	5 DO 20 I=2,NV3	TRANS 16
	NN=NI(I-1)	TRANS 17
	GO TO (20,8,12,10,14),NN	TRANS 18
	8 IF (X(I)) 15,15,9	TRANS 19
	9 X(I)=LOG10F(X(I))	TRANS 20
	GO TO 20	TRANS 21
	10 X(I)=X(I)+50.	TRANS 22
	12 IF (X(I)) 15,15,13	TRANS 23
	13 X(I)=LOGF(X(I))	TRANS 24
	GO TO 20	TRANS 25
	14 IF (X(I)) 15,16,16	TRANS 26
	15 WRITE OUTPUT TAPE 6,900,NTR(I-1)	TRANS 27
	IERR=-2	TRANS 28
	GO TO 25	TRANS 29
	16 X(I)=SQRTF(X(I))	TRANS 30
	20 CONTINUE	TRANS 31
	25 RETURN	TRANS 32
900	FORMAT(1H0/41H0ILLEGAL ARGUMENT FOR TRANSFORMATION CODEI2)	TRANS 33
	END(1,1,0,0,0,0,0,1,0,0,0,0,0,0,0)	

TRANS -- EXAMPLE OF SUBROUTINE TO TRANSFORM DATA

00000	-034627010060	00	LOG10	BCD	1LOG10	00067	+050000247310	010	20A	CLA	X+1,2
00001	-034627606060	00	LOG	BCD	1LOG	00070	+030000000156	010		FAD	3)
00002	-346263303460	00	(STH)	BCD	1(STH)	00071	+060100247310	010		STC	X+1,2
00003	-342631433460	00	(FIL)	BCD	1(FIL)	00072	+002000000074	010		TRA	21A
00004	-225051636060	00	SQRT	BCD	1SQRT	00073	-063400400177	010	E)B	SXD	C)G1,4
00005	+000000000000	00	S	PZE		00074	+050000247310	010	21A	CLA	X+1,2
00006	+000000000000	00		PZE		00075	+010000000113	010	21A1	TZE	25A
00007	+000000000000	00		PZE		00076	+012000000100	010		TPL	22A
00010	-235121456260	00		BCD	1TRANS	00077	+002000000113	010		TRA	25A
00011	-063400100005	010		SXD	\$,1	00100	+050000247310	010	22A	CLA	X+1,2
00012	-063400200006	010		SXD	\$+1,2	00101	-063400400163	010		SXD	6)+4,4
00013	-063400400007	010		SXD	\$+2,4	00102	+007400400001	010		TSX	LOG,4
00014	+050000000002	00	1A	CLA	2	00103	-053400400163	010		LXD	6)+4,4
00015	+060100000164	010		STC	6)+5	00104	+060100247310	010		STC	X+1,2
00016	-076000000141	00	7A	MSE	97	00105	+002000000137	010	23A	TRA	30A
00017	+002000000037	010		TRA	14A	00106	-063400400177	010	E)D	SXD	C)G1,4
00020	-053400100153	010	8A	LXD	2)+2,1	00107	+050000247310	010	24A	CLA	X+1,2
00021	+050000046524	010		CLA	NV2	00110	+010000000132	010	24A1	TZE	29A
00022	+062200000035	010		STD	12A2	00111	+012000000132	010		TPL	29A
00023	+050000000151	010	9A	CLA	2)	00112	-063400200176	010	E)20E	SXD	C)G0,2
00024	+040200146477	010		SUB	NTR+1,1				E)E	SYN	E)20E
00025	+010000000031	010	9A1	TZE	11A	00113	-050000000154	010	25A	CAL	2)+3
00026	+012000000031	010		TPL	11A	00114	-063400400163	010		SXD	6)+4,4
00027	+050000000152	010	10A	CLA	2)+1	00115	+007400400002	010		TSX	(STH),4
00030	+060100146477	010		STC	NTR+1,1	00116	+000000000175	010		PZE	8)S4
00031	+050000146477	010	11A	CLA	NTR+1,1	00117	-053400400163	010		LXD	6)+4,4
00032	+040000000153	010		ADD	2)+2	00120	+056000246500	010	26A	LDQ	NTR+2,2
00033	+060100146435	010		STC	NI+1,1	00121	-100000000000	00		STR	
			12A	BSS		00122	-063400400163	010		SXD	6)+4,4
00034	+100001100035	010	12A1	TXI	*+1,1,1	00123	+007400400003	010		TSX	(FIL),4
00035	-300000100023	010	12A2	TXL	9A,1	00124	-053400400163	010		LXD	6)+4,4
00036	+002000000143	010	13A	TRA	D)60I	00125	+050200000155	010	27A	CLS	2)+4
00037	-053400200155	010	14A	LXD	2)+4,2	00126	+060100046676	010		STC	IERR
00040	+050000046523	010		CLA	NV3	00127	-075400200000	00	28A	PXD	0,2
00041	+062200000140	010		STD	30A2	00130	+060100000201	010		STC	I
00042	+050000246436	010	15A	CLA	NI+2,2	00131	+002000000145	010		TRA	31A
00043	+060100000200	010		STC	NN	00132	+050000247310	010	29A	CLA	X+1,2
00044	-053400400200	010		LXD	NN,4	00133	-063400400163	010		SXD	6)+4,4
00045	+002000400053	010	16A	TRA	16A+6,4	00134	+007400400004	010		TSX	SQRT,4
00046	+002000000106	010		TRA	E)D	00135	-053400400163	010		LXD	6)+4,4
00047	+002000000066	010		TRA	E)A	00136	+060100247310	010		STC	X+1,2
00050	+002000000073	010		TRA	E)B				30A	BSS	
00051	+002000000053	010		TRA	E)8	00137	+100001200140	010	30A1	TXI	*+1,2,1
00052	+002000000137	010		TRA	30A	00140	-300000200042	010	30A2	TXL	15A,2
00053	-063400400177	010	E)8	SXD	C)G1,4	00141	-063400400177	010	E)H	SXD	C)G1,4
00054	+050000247310	010	17A	CLA	X+1,2	00142	+002000000144	010		TRA	D)20I
00055	+010000000112	010	17A1	TZE	E)E	00143	-053400400177	010	D)60I	LXD	C)G1,4
00056	+012000000060	010		TPL	18A	00144	-053400200176	010	D)20I	LXD	C)G0,2
00057	+002000000112	010		TRA	E)E	00145	-053400100005	010	31A	LXD	\$,1
00060	+050000247310	010	18A	CLA	X+1,2	00146	-053400200006	010		LXD	\$+1,2
00061	-063400400163	010		SXD	6)+4,4	00147	-053400400007	010		LXD	\$+2,4
00062	+007400400000	010		TSX	LOG10,4	00150	+002000400001	00		TRA	1,4
00063	-053400400163	010		LXD	6)+4,4	00151	+000004000000	00	2)	OCT	+000004000000
00064	+060100247310	010		STC	X+1,2	00152	+000000000000	00		OCT	+000000000000
00065	+002000000137	010	19A	TRA	30A	00153	+000001000000	00		OCT	+000001000000
00066	-063400400177	010	E)A	SXD	C)G1,4	00154	+000006000000	00		OCT	+000006000000

TRANS -- EXAMPLE OF SUBROUTINE TO TRANSFORM DATA

00155	+000002000000	00		OCT	+000002000000
00156	+206620000000	00	3)	OCT	+206620000000
00157	+233000000000	00	6)	OCT	+233000000000
00160	+000000377777	00		OCT	+000000377777
00161	+000000000000	00		OCT	+000000000000
00162	+000001000000	00		OCT	+000001000000
00163	+000000000000	00		OCT	+000000000000
00164	+000000000000	00		OCT	+000000000000
00165	+253102346060	00		BCD	LET2)
00166	-064560234624	00		BCD	IGN COD
00167	-065144216331	00		BCD	FORMATI
00170	-235121456226	00		BCD	1TRANSF
00171	-236026465160	00		BCD	1T FOR
00172	-112764442545	00		BCD	IRGUMEN
00173	+252721436021	00		BCD	LEGAL A
00174	+013000314343	00		BCD	11HOILL
00175	-340130006104	00	8)S4	BCD	1(1HO/4

INW4

•	FCRTRAN		
	SUBROUTINE INW		INW4 1
C	SEARCH DIAG. ONLY		INW4 2
	DIMENSION NT(48),TEST(8),MTEST(8),DUM1(5012),NCOE(9),ZNAME(12),		INW4 3
	1DUM2(107)		INW4 4
D	DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)		INW4 5
	1,MC(1312)		INW4 6
	COMMON NT,A,T,TEMP,C,DUM1,NCOE,ZNAME,NC,NDEG,IERR,DUM2		INW4 7
	EQUIVALENCE (NV,NT(2)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP,		INW4 8
	1MTEMP),(C,MC)		INW4 9
	DIMENSION NI(45)		INW4 10
	COMMON NI		INW4 11
B	ZNAME(1)=314565660460		INW4 12
	IERR=0		INW4 13
	DC 10 I=1,NC		INW4 14
10	NI(I)=0		INW4 15
	DC 40 K=1,NC		INW4 16
	TEMP=0.		INW4 17
	DC 20 I=1,NC		INW4 18
	IF (NI(I)) 20,15,20		INW4 19
15	IF (XABSF(MA(I,I))-MTEMP) 20,20,16		INW4 20
16	TEMP=ABSF(A(I,I))		INW4 21
	II=I		INW4 22
20	CONTINUE		INW4 23
	IF (MTEMP-MTEST(7)) 21,21,22		INW4 24
21	IERR=NDEG		INW4 25
	GO TO 70		INW4 26
22	NI(II)=1		INW4 27
D	TEMP=A(II,II)		INW4 28
D	A(II,II)=1.		INW4 29
	DC 30 J=1,NC		INW4 30
D 30	A(II,J)=A(II,J)/TEMP		INW4 31
	DC 40 I=1,NC		INW4 32
	IF (I-II) 32,40,32		INW4 33
D 32	TEMP=A(I,II)		INW4 34
D	A(I,II)=0.		INW4 35
	DC 35 J=1,NC		INW4 36
D 35	A(I,J)=A(I,J)-A(II,J)*TEMP		INW4 37
40	CONTINUE		INW4 38
70	RETURN		INW4 39
	END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)		

INVM4

00000	-342426244734	00	(DFDP)	BCD	1(DFDP)	00070	-053400200367	010	LXD	II,2	
00001	-342426444734	00	(DFMP)	BCD	1(DFMP)	00071	-063400200356	010	SXD	C)G2,2	
00002	-342426212434	00	(DFAD)	BCD	1(DFAD)	00072	-053400200355	010	D)207	LXD	C)G1,2
00003	+000000000000	00	\$	PZE					20A	BSS	
00004	+000000000000	00		PZE		00073	+100001200074	010	20A1	TXI	**1,2,1
00005	+000000000000	00		PZE		00074	-063400200366	010		SXD	I,2
00006	+314565666060	00		BCD	1INVM	00075	+100056400076	010		TXI	**1,4,46
00007	-063400100003	010		SXD	\$,1	00076	-300000200042	010	20A2	TXL	16A,2
00010	-063400200004	010		SXD	\$+1,2	00077	+050000065653	010	21A	CLA	MTEMP
00011	-063400400005	010		SXD	\$+2,4	00100	+040200077403	010		SUB	MTEST-6
00012	+050000000002	00	1A	CLA	2	00101	+010000000103	010	21A1	TZE	22A
00013	+060100000350	010		STO	6)+5	00102	+012000000110	010		TPL	E)A
00014	-050000000335	010	9A	CAL	3)	00103	+050000046677	010	22A	CLA	NDEG
00015	+060200046714	010		SLW	ZNAME	00104	+060100046676	010		STO	IERR
00016	+050000000332	010	10A	CLA	2)	00105	-075400100000	00	23A	PXD	0,1
00017	+060100046676	010		STO	IERR	00106	+060100000365	010		STO	K
00020	-053400100333	010	11A	LXD	2)+1,1	00107	+002000000311	010		TRA	36A
00021	+050000046700	010		CLA	NC	00110	-063400100364	010	E)A	SXD	C)202,1
00022	+062200000026	010		STD	12A2	00111	+050000000333	010	24A	CLA	2)+1
00023	+050000000332	010	12A	CLA	2)	00112	-053400200356	010		LXD	C)G2,2
00024	+060100146523	010		STO	NI+1,1	00113	+060100246523	010		STO	NI+1,2
00025	+100001100026	010	12A1	TXI	**1,1,1	00114	-053400400360	010		LXD	C)101,4
00026	-300000100023	010	12A2	TXL	12A,1	00115	+050000477402	010	25A	CLA	A+1,4
00027	-053400100333	010	13A	LXD	2)+1,1	00116	+060100077777	010		STO	4)
00030	+050000046700	010		CLA	NC	00117	+050000472661	010		CLA	A-2384,4
00031	+062200000307	010		STD	35A4	00120	+060100077776	010		STO	4)-1
00032	+050000000336	010	14A	CLA	3)+1	00121	+050000077777	010		CLA	4)
00033	+060100065653	010		STO	TEMP	00122	+060100065653	010		STO	TEMP
00034	-053400200333	010	15A	LXD	2)+1,2	00123	+050000077776	010		CLA	4)-1
00035	+050000046700	010		CLA	NC	00124	+060100065652	010		STO	TEMP-1
00036	+062200000076	010		STD	20A2	00125	+050000000340	010	26A	CLA	3)+3
00037	-075400200000	00		PXD	0,2	00126	+060100077777	010		STO	4)
00040	+060100000366	010		STO	I	00127	+050000000337	010		CLA	3)+2
00041	-053400400333	010		LXD	2)+1,4	00130	+060100077776	010		STC	4)-1
00042	+050000246523	010	16A	CLA	NI+1,2	00131	+050000077777	010		CLA	4)
00043	+010000000046	010	16A1	TZE	17A	00132	+060100477402	010		STO	A+1,4
00044	+012000000073	010		TPL	20A	00133	+050000077776	010		CLA	4)-1
00045	+002000000073	010		TRA	20A	00134	+060100472661	010		STO	A-2384,4
00046	+050000477402	010	17A	CLA	MA+1,4	00135	-053400400367	010	27A	LXD	II,4
00047	+076000000003	00		SSP		00136	-053400200333	010		LXD	2)+1,2
00050	+040200065653	010		SUB	MTEMP	00137	+050000046700	010		CLA	NC
00051	+010000000073	010	17A1	TZE	20A	00140	+062200000161	010		STD	28A2
00052	+012000000054	010		TPL	E)6	00141	+050000477402	010	28A	CLA	A+1,4
00053	+002000000073	010		TRA	20A	00142	+060100077777	010		STO	4)
00054	-063400400357	010	E)6	SXD	C)100,4	00143	+050000472661	010		CLA	A-2384,4
00055	-063400200355	010		SXD	C)G1,2	00144	+060100077776	010		STO	4)-1
00056	-063400100364	010		SXD	C)202,1	00145	+050000000000	010		CLA	(DFDP)
00057	+050000477402	010	18A	CLA	A+1,4	00146	+060100000002	00		STO	2
00060	+076000000003	00		SSP		00147	-100000065653	010		STR	TEMP
00061	+060100065653	010		STO	TEMP	00150	+000000065652	010		PZE	TEMP-1
00062	+050000000366	010	19A	CLA	I	00151	+056000000350	010		LDQ	6)+5
00063	+060100000367	010		STO	II	00152	-060000000002	00		STQ	2
00064	-063400400347	010		SXD	6)+4,4	00153	+056000077775	010		LDQ	4)-2
00065	+007400400315	010		TSX	A)101,4	00154	-060000477402	010		STQ	A+1,4
00066	-053400200360	010		LXD	C)101,2	00155	+056000077774	010		LDQ	4)-3
00067	-053400400347	010		LXD	6)+4,4	00156	-060000472661	010		STQ	A-2384,4

INVM4

00157	+100055400160	010	28A1	TXI	**1,4,45	00247	+050000000001	010	CLA	(DFMP)	
00160	+100001200161	010		TXI	**1,2,1	00250	+060100000002	00	STO	2	
00161	-300000200141	010	28A2	TXL	28A,2	00251	-100000065653	010	STR	TEMP	
00162	-053400200333	010	29A	LXD	2)+1,2	00252	+000000065652	010	PZE	TEMP-1	
00163	-063400200362	010		SXD	C)104,2	00253	+050200077777	010	CLS	4)	
00164	+056000046700	010		LDQ	NC	00254	+060100077777	010	STO	4)	
00165	+020000000334	010		MPY	2)+2	00255	+050200077776	010	CLS	4)-1	
00166	+076700000021	00		ALS	17	00256	+060100077776	010	STO	4)-1	
00167	+062200000273	010		STD	34A2	00257	+050000000002	010	CLA	(DFAD)	
00170	+056000046700	010		LDQ	NC	00260	+060100000002	00	STO	2	
00171	+020000000334	010		MPY	2)+2	00261	-100000477402	010	STR	A+1,4	
00172	+076700000021	00		ALS	17	00262	+000000472661	010	PZE	A-2384,4	
00173	+062200000274	010		STD	34A3	00263	+056000000350	010	LDQ	6)+5	
00174	+050000000346	010		CLA	6)+3	00264	-060000000002	00	STQ	2	
00175	+060100000354	010		STO	1)+3	00265	+050000077777	010	CLA	4)	
00176	+056000000367	010		LDQ	II	00266	+060100477402	010	STO	A+1,4	
00177	+020000000334	010		MPY	2)+2	00267	+050000077776	010	CLA	4)-1	
00200	+076700000021	00		ALS	17	00270	+060100472661	010	STO	A-2384,4	
00201	+040200000334	010		SUB	2)+2	00271	+100055400272	010	34A1	TXI	**1,4,45
00202	+040000000354	010		ADD	1)+3	00272	+100055200273	010		TXI	**1,2,45
00203	+060100000354	010		STO	1)+3	00273	-300000400243	010	34A2	TXL	34A,4
00204	-053400400354	010		LXD	1)+3,4	00274	+200000400275	010	34A3	TIX	**1,4
00205	-063400400361	010		SXD	C)103,4				35A	BSS	
00206	-053400100333	010		LXD	2)+1,1	00275	+100001400276	010	35A1	TXI	**1,4,1
00207	-063400100363	010		SXD	C)200,1	00276	+100001100277	010		TXI	**1,1,1
00210	+050000046700	010		CLA	NC	00277	-053400200363	010		LXD	C)200,2
00211	+062200000303	010		STD	35A2	00300	+100001200301	010		TXI	**1,2,1
00212	-075400100000	00		PKD	0,1	00301	-063400200363	010		SXD	C)200,2
00213	+060100000366	010		STO	I	00302	-063400200366	010		SXD	I,2
00214	-053400400362	010	D)70D	LXD	C)104,4	00303	-300000200217	010	35A2	TXL	30A,2
00215	-053400200363	010	D)30D	LXD	C)200,2	00304	-053400100364	010		LXD	C)202,1
00216	-053400100361	010	D)10D	LXD	C)103,1	00305	+100001100306	010		TXI	**1,1,1
00217	+050000000366	010	30A	CLA	I	00306	-063400100364	010		SXD	C)202,1
00220	+040200000367	010		SUB	II	00307	-300000100032	010	35A4	TXL	14A,1
00221	+010000000275	010	30A1	IZE	35A	00310	-053400100364	010	D)10K	LXD	C)202,1
00222	+050000177402	010	31A	CLA	A+1,1	00311	-053400100003	010	36A	LXD	\$,1
00223	+060100077777	010		STO	4)	00312	-053400200004	010		LXD	\$+1,2
00224	+050000172661	010		CLA	A-2384,1	00313	-053400400005	010		LXD	\$+2,4
00225	+060100077776	010		STO	4)-1	00314	+002000400001	00		TRA	1,4
00226	+050000077777	010		CLA	4)	00315	+050000000346	010	A)101	CLA	6)+3
00227	+060100065653	010		STO	TEMP	00316	+060100000354	010		STO	1)+3
00230	+050000077776	010		CLA	4)-1	00317	+050000000367	010		CLA	II
00231	+060100065652	010		STO	TEMP-1	00320	+040200000346	010		SUB	6)+3
00232	+050000000342	010	32A	CLA	3)+5	00321	+040000000354	010		ADD	1)+3
00233	+060100077777	010		STO	4)	00322	+060100000354	010		STO	1)+3
00234	+050000000341	010		CLA	3)+4	00323	+056000000367	010		LDQ	II
00235	+060100077776	010		STO	4)-1	00324	+020000000334	010		MPY	2)+2
00236	+050000077777	010		CLA	4)	00325	+076700000021	00		ALS	17
00237	+060100177402	010		STO	A+1,1	00326	+040200000334	010		SUB	2)+2
00240	+050000077776	010		CLA	4)-1	00327	+040000000354	010		ADD	1)+3
00241	+060100172661	010		STO	A-2384,1	00330	+060100000360	010		STO	C)101
00242	-053400200367	010	33A	LXD	1),2	00331	+002000400001	00		TRA	1,4
00243	+056000277402	010	34A	LDQ	A+1,2	00332	+000000000000	00	2)	OCT	+000000000000
00244	-060000077775	010		STQ	4)-2	00333	+000001000000	00		OCT	+000010000000
00245	+056000272661	010		LDQ	A-2384,2	00334	+000055000000	00		OCT	+000055000000
00246	-060000077774	010		STQ	4)-3	00335	+314565660460	00	3)	OCT	+314565660460

INVW4

00336	+000000000000	00		OCT	+000000000000
00337	+146000000000	00		OCT	+146000000000
00340	+201400000000	00		OCT	+201400000000
00341	+000000000000	00		OCT	+000000000000
00342	+000000000000	00		OCT	+000000000000
00343	+233000000000	00	6)	OCT	+233000000000
00344	+000000377777	00		OCT	+000000377777
00345	+000000000000	00		OCT	+000000000000
00346	+000001000000	00		OCT	+000001000000
00347	+000000000000	00		OCT	+000000000000
00350	+000000000000	00		OCT	+000000000000

	SUBROUTINE SOLW	SOLW2 1
	DIMENSION NT(48),TEST(8),MTEST(8),DUM1(5012),NCOE(9),ZNAME(12),	SOLW2 2
	1DUM2(107)	SOLW2 3
D	DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)	SOLW2 4
	1,MC(1312)	SOLW2 5
	COMMON NT,A,T,TEMP,C,DUM1,NCOE,ZNAME,NC,NDEG,IERR,DUM2	SOLW2 6
	EQUIVALENCE (NV,NT(2)),(TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP,	SOLW2 7
	1MTEMP),(C,MC)	SOLW2 8
	DIMENSION NI(45)	SOLW2 9
	COMMON NI	SOLW2 10
B	ZNAME(1)=624643660260	SOLW2 11
	IERR=0	SOLW2 12
	NM1=NC-1	SOLW2 13
	NP1=NC+1	SOLW2 14
	NCV=NC+NV	SOLW2 15
	DO 10 I=1,NC	SOLW2 16
10	NI(I)=I	SOLW2 17
	DC 100 K=1,NM1	SOLW2 18
	TEMP=0.	SOLW2 19
	DO 30 I=K,NC	SOLW2 20
	DC 30 J=K,NC	SOLW2 21
	IF (XABSF(MA(I,J))-MTEMP) 30,30,25	SOLW2 22
25	TEMP=ABSF(A(I,J))	SOLW2 23
	II=I	SOLW2 24
	JJ=J	SOLW2 25
30	CONTINUE	SOLW2 26
	IF (MTEMP-MTEST(7)) 150,150,40	SOLW2 27
40	IF (II-K) 42,46,42	SOLW2 28
42	DC 44 J=K,NCV	SOLW2 29
D	TEMP=A(II,J)	SOLW2 30
D	A(II,J)=A(K,J)	SOLW2 31
D	44 A(K,J)=TEMP	SOLW2 32
46	IF (JJ-K) 48,52,48	SOLW2 33
48	MTEMP=NI(JJ)	SOLW2 34
	NI(JJ)=NI(K)	SOLW2 35
	NI(K)=MTEMP	SOLW2 36
	DO 50 I=1,NC	SOLW2 37
D	TEMP=A(I,JJ)	SOLW2 38
D	A(I,JJ)=A(I,K)	SOLW2 39
D	50 A(I,K)=TEMP	SOLW2 40
	52 L=K+1	SOLW2 41
	DC 55 J=L,NCV	SOLW2 42
D	A(K,J)=A(K,J)/A(K,K)	SOLW2 43
	DC 55 I=L,NC	SOLW2 44
D	55 A(I,J)=A(I,J)-A(I,K)*A(K,J)	SOLW2 45
100	CONTINUE	SOLW2 46
	IF (XABSF(MA(NC,NC))-MTEST(7)) 150,150,110	SOLW2 47
110	DC 130 J=NP1,NCV	SOLW2 48
D	A(NC,J)=A(NC,J)/A(NC,NC)	SOLW2 49
	K=NM1	SOLW2 50
115	DC 120 I=K,NM1	SOLW2 51
D	120 A(K,J)=A(K,J)-A(K,I+1)*A(I+1,J)	SOLW2 52
	K=K-1	SOLW2 53
	IF (K) 130,130,115	SOLW2 54
130	CONTINUE	SOLW2 55

SOLW2

```
NE=NCOE(NDEG)-NC
DO 140 J=1,NV
NE=NE+NC
M=J+NC
DO 140 I=1,NC
L=NI(I)+NE
D 140 C(L)=A(I,M)
145 RETURN
150 IERR=NDEG
GO TO 145
END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)
```

```
SOLW2 56
SOLW2 57
SOLW2 58
SOLW2 59
SOLW2 60
SOLW2 61
SOLW2 62
SOLW2 63
SOLW2 64
SOLW2 65
```

SQLW2

00000	-342426244734	00	(DFDP)	BCD 1(DFDP)	00070	-053400401063	010	LXD 2)+1,4
00001	-342426444734	00	(DFMP)	BCD 1(DFMP)	00071	-063400401111	010	SXD C)105,4
00002	-342426212434	00	(DFAD)	BCD 1(DFAD)	00072	+002000000074	010	TRA 17A
00003	+000000000000	00	\$	PZE	00073	-053400101112	010	D)103 LXC C)106,1
00004	+000000000000	00		PZE	00074	+050000001066	010	17A CLA 3)+1
00005	+000000000000	00		PZE	00075	+060100065653	010	STC TEMP
00006	-224643666060	00		BCD 1SOLW	00076	+050000001133	010	18A CLA K)
00007	-063400100003	010		SXD \$,1	00077	+060100001100	010	STO 1)+3
00010	-063400200004	010		SXD \$+1,2	00100	+056000001133	010	LDQ K
00011	-063400400005	010		SXD \$+2,4	00101	+020000001064	010	MPY 2)+2
00012	+050000000002	00	1A	CLA 2	00102	+076700000021	00	ALS 17
00013	+060100001074	010		STC 6)+5	00103	+040200001064	010	SUB 2)+2
00014	+007400401045	010		TSX A)106,4	00104	+040000001100	010	ADD 1)+3
00015	-053400101112	010		LXD C)106,1	00105	+060100001100	010	STC 1)+3
00016	-053400246677	010		LXD NDEG,2	00106	-053400401100	010	LXC 1)+3,4
00017	-063400201104	010		SXD C)G4,2	00107	+050000046700	010	CLA NC
00020	-050000001065	010	9A	CAL 3)	00110	+040200001133	010	SUB K
00021	+060200046714	010		SLW ZNAME	00111	+040000001072	010	ADD 6)+3
00022	+050000001062	010	10A	CLA 2)	00112	+060100001100	010	STO 1)+3
00023	+060100046676	010		STO IERR	00113	+056000001100	010	LDQ 1)+3
00024	+050000046700	010	11A	CLA NC	00114	+020000001064	010	MPY 2)+2
00025	+040200001063	010		SUB 2)+1	00115	+076700000021	00	ALS 17
00026	+060100001126	010		STO NM1	00116	+062200000156	010	STO 24A3
00027	+050000046700	010	12A	CLA NC	00117	-053400201133	010	LXC K,2
00030	+040000001063	010		ADD 2)+1	00120	-063400201121	010	SXD C)204,2
00031	+060100001125	010		STO NP1	00121	+050000046700	010	CLA NC
00032	+050000046700	010	13A	CLA NC	00122	+062200000164	010	STD 24A4
00033	+040000077460	010		ADD NV	00123	-075400200000	00	PXD 0,2
00034	+060100001130	010		STO NCV	00124	+060100001136	010	STO I
00035	-053400401063	010	14A	LXD 2)+1,4	00125	-053400101102	010	D)104 LXD C)G2,1
00036	+050000046700	010		CLA NC	00126	-053400201133	010	19A LXD K,2
00037	+062200000046	010		STD 15A2	00127	+050000046700	010	CLA NC
00040	-075400400000	00		PXD 0,4	00130	+062200000155	010	STD 24A2
00041	+060100001136	010		STC I	00131	-075400200000	00	PXD 0,2
00042	+050000001136	010	15A	CLA I	00132	+060100001134	010	STO J
00043	+060100446523	010		STD NI+1,4	00133	+050000477402	010	20A CLA MA+1,4
00044	+100001400045	010	15A1	TXI **+1,4,1	00134	+076000000003	00	SSP
00045	-063400401136	010		SXD 1,4	00135	+040200065653	010	SUB MTEMP
00046	-300000400042	010	15A2	TXL 15A,4	00136	+010000000152	010	20A1 TZE 24A
00047	-053400401063	010	16A	LXD 2)+1,4	00137	+012000000141	010	TPL 21A
00050	-063400401116	010		SXD C)200,4	00140	+002000000152	010	TRA 24A
00051	+050000046700	010		CLA NC	00141	+050000477402	010	21A CLA A+1,4
00052	+062200000343	010		STD 38A2	00142	+076000000003	00	SSP
00053	+050000046700	010		CLA NC	00143	+060100065653	010	STO TEMP
00054	+040200001072	010		SUB 6)+3	00144	+050000001136	010	22A CLA I
00055	+062200000521	010		STD 44A3	00145	+060100001137	010	STO II
00056	+040000001064	010		ADD 2)+2	00146	+050000001134	010	23A CLA J
00057	+062200000517	010		STD 44A1	00147	+060100001135	010	STO JJ
00060	+050000046700	010		CLA NC	00150	-053400101135	010	LXD JJ,1
00061	+062200000344	010		STD 38A4	00151	-063400101102	010	SXD C)G2,1
00062	-053400401063	010		LXD 2)+1,4				24A BSS
00063	-063400401103	010		SXD C)G3,4	00152	+100055400153	010	24A1 TXI **+1,4,45
00064	+050000001126	010		CLA NM1	00153	+100001200154	010	TXI **+1,2,1
00065	+062200000532	010		STD 44A4	00154	-063400201134	010	SXD J,2
00066	-075400400000	00		PXD 0,4	00155	-300000200133	010	24A2 TXL 20A,2
00067	+060100001133	010		STC K	00156	+200000400157	010	TXI **+1,4

00157	+100001400160	010		TXI	*+1,4,1	00247	+060100172661	010		STO	A-2384,1
00160	-053400201121	010		LXD	C)204,2	00250	+050000065653	010	30A	CLA	TEMP
00161	+100001200162	010		TXI	*+1,2,1	00251	+060100077777	010		STO	4)
00162	-063400201121	010		SXD	C)204,2	00252	+050000065652	010		CLA	TEMP-1
00163	-063400201136	010		SXD	I,2	00253	+060100077776	010		STO	4)-1
00164	-300000200126	010	24A4	TXL	19A,2	00254	+050000077777	010		CLA	4)
00165	+050000065653	010	25A	CLA	MTEMP	00255	+060100277402	010		STO	A+1,2
00166	+040200077403	010		SUB	MTEST-6	00256	+050000077776	010		CLA	4)-1
00167	+010000001025	010	25A1	TZE	63A	00257	+060100272661	010		STO	A-2384,2
00170	+C12000000172	010		TPL	26A	00260	+100055100261	010	30A1	TXI	*+1,1,45
00171	+002000001025	010		TRA	63A	00261	+100055200262	010		TXI	*+1,2,45
00172	+050000001137	010	26A	CLA	II	00262	+100001400263	010		TXI	*+1,4,1
00173	+040200001133	010		SUB	K	00263	-300000400230	010	30A2	TXL	28A,4
00174	+010000000264	010	26A1	TZE	31A	00264	+050000001135	010	31A	CLA	JJ
00175	+050000001137	010	27A	CLA	II	00265	+040200001133	010		SUB	K
00176	+060100001100	010		STO	I)+3	00266	+010000000347	010	31A1	TZE	D)101
00177	+056000001133	010		LDQ	K	00267	-053400101102	010	D)10F	LXD	C)G2,1
00200	+020000001064	010		MPY	2)+2	00270	+050000146523	010	32A	CLA	NI+1,1
00201	+076700000021	00		ALS	17	00271	+060100065653	010		STO	MTEMP
00202	+040200001064	010		SUB	2)+2	00272	-053400201103	010		LXD	C)G3,2
00203	+040000001100	010		ADD	I)+3	00273	+050000246523	010	33A	CLA	NI+1,2
00204	+060100001100	010		STO	I)+3	00274	+060100146523	010		STO	NI+1,1
00205	-053400201100	010		LXD	I)+3,2	00275	+050000065653	010	34A	CLA	MTEMP
00206	-063400201107	010		SXD	C)101,2	00276	+060100246523	010		STO	NI+1,2
00207	+050000001133	010		CLA	K	00277	+050000001072	010	35A	CLA	6)+3
00210	+060100001100	010		STO	I)+3	00300	+060100001100	010		STO	I)+3
00211	+056000001133	010		LDQ	K	00301	+056000001135	010		LDQ	JJ
00212	+020000001064	010		MPY	2)+2	00302	+020000001064	010		MPY	2)+2
00213	+076700000021	00		ALS	17	00303	+076700000021	00		ALS	17
00214	+040200001064	010		SUB	2)+2	00304	+040200001064	010		SUB	2)+2
00215	+040000001100	010		ADD	I)+3	00305	+040000001100	010		ADD	I)+3
00216	+060100001100	010		STO	I)+3	00306	+060100001100	010		STO	I)+3
00217	-053400401100	010		LXD	I)+3,4	00307	-053400401100	010		LXD	I)+3,4
00220	-063400401117	010		SXD	C)201,4	00310	-053400101116	010	D)10G	LXD	C)200,1
00221	-053400101133	010		LXD	K,1	00311	+050000477402	010	36A	CLA	A+1,4
00222	-063400101120	010		SXD	C)202,1	00312	+060100077777	010		STO	4)
00223	+050000001130	010		CLA	NCV	00313	+050000472661	010		CLA	A-2384,4
00224	+062200000263	010		STD	30A2	00314	+060100077776	010		STO	4)-1
00225	-053400401120	010	D)70C	LXD	C)202,4	00315	+050000077777	010		CLA	4)
00226	-053400201117	010	D)30C	LXD	C)201,2	00316	+060100065653	010		STO	TEMP
00227	-053400101107	010	D)10C	LXD	C)101,1	00317	+050000077776	010		CLA	4)-1
00230	+050000177402	010	28A	CLA	A+1,1	00320	+060100065652	010		STO	TEMP-1
00231	+060100077777	010		STO	4)	00321	+050000177402	010	37A	CLA	A+1,1
00232	+050000172661	010		CLA	A-2384,1	00322	+060100077777	010		STO	4)
00233	+060100077776	010		STO	4)-1	00323	+050000172661	010		CLA	A-2384,1
00234	+050000077777	010		CLA	4)	00324	+060100077776	010		STO	4)-1
00235	+060100065653	010		STO	TEMP	00325	+050000077777	010		CLA	4)
00236	+050000077776	010		CLA	4)-1	00326	+060100477402	010		STO	A+1,4
00237	+060100065652	010		STO	TEMP-1	00327	+050000077776	010		CLA	4)-1
00240	+050000277402	010	29A	CLA	A+1,2	00330	+060100472661	010		STO	A-2384,4
00241	+060100077777	010		STO	4)	00331	+050000065653	010	38A	CLA	TEMP
00242	+050000272661	010		CLA	A-2384,2	00332	+060100077777	010		STO	4)
00243	+060100077776	010		STO	4)-1	00333	+050000065652	010		CLA	TEMP-1
00244	+050000077777	010		CLA	4)	00334	+060100077776	010		STO	4)-1
00245	+060100177402	010		STO	A+1,1	00335	+050000077777	010		CLA	4)
00246	+050000077776	010		CLA	4)-1	00336	+060100177402	010		STO	A+1,1

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00337	+C50000077776	010	CLA 4)-1	00427	+060100077777	010	STD 4)
00340	+060100172661	010	STO A-2384,1	00430	+050000272661	010	CLA A-2384,2
00341	+100001400342	010	38A1 TXI **1,4,1	00431	+060100077776	010	STO 4)-1
00342	+100001100343	010	TXI **1,1,1	00432	+050000000000	010	CLA (DFDP)
00343	-300000100311	010	38A2 TXL 36A,1	00433	+060100000002	00	STO 2
00344	+200000100345	010	38A4 TIX **1,1	00434	-053400101111	010	LXD C)105,1
00345	-063400101116	010	SXD C)200,1	00435	-100000177402	010	STR A+1,1
00346	+002000000350	010	TRA 39A	00436	+000000172661	010	PZE A-2384,1
00347	-053400101116	010	D)110I LXD C)200,1	00437	+056000001074	010	LDQ 6)+5
00350	+050000001133	010	39A CLA K	00440	-060000000002	00	STQ 2
00351	+040000001063	010	ADD 2)+1	00441	+056000077775	010	LDQ 4)-2
00352	+060100001132	010	STO L	00442	-060000277402	010	STQ A+1,2
00353	-053400401132	010	LXD L,4	00443	+056000077774	010	LDQ 4)-3
00354	-063400401105	010	SXD C)65,4	00444	-060000272661	010	STQ A-2384,2
00355	+050000001132	010	40A CLA L	00445	+050000001132	010	42A CLA L
00356	+060100001100	010	STO 1)+3	00446	+060100001100	010	STO 1)+3
00357	+056000001132	010	LDQ L	00447	+056000001133	010	LDQ K
00360	+020000001064	010	MPY 2)+2	00450	+020000001064	010	MPY 2)+2
00361	+076700000021	00	ALS 17	00451	+076700000021	00	ALS 17
00362	+040200001064	010	SUB 2)+2	00452	+040200001064	010	SUB 2)+2
00363	+040000001100	010	ADD 1)+3	00453	+040000001100	010	ADD 1)+3
00364	+060100001100	010	STO 1)+3	00454	+060100001100	010	STO 1)+3
00365	-053400401100	010	LXD 1)+3,4	00455	-053400101100	010	LXD 1)+3,1
00366	-063400401106	010	SXD C)100,4	00456	+056000177402	010	43A LDQ A+1,1
00367	+050000046700	010	CLA NC	00457	-060000077775	010	STQ 4)-2
00370	+060100001100	010	STO 1)+3	00460	+056000172661	010	LDQ A-2384,1
00371	+056000001132	010	LDQ L	00461	-060000077774	010	STQ 4)-3
00372	+020000001064	010	MPY 2)+2	00462	+050000000001	010	CLA (DFMP)
00373	+076700000021	00	ALS 17	00463	+060100000002	00	STO 2
00374	+040200001064	010	SUB 2)+2	00464	-100000277402	010	STR A+1,2
00375	+040000001100	010	ADD 1)+3	00465	+000000272661	010	PZE A-2384,2
00376	+062200000506	010	STD 43A2	00466	+050200077777	010	CLS 4)
00377	+C56000001130	010	LDQ NCV	00467	+060100077777	010	STO 4)
00400	+020000001064	010	MPY 2)+2	00470	+050200077776	010	CLS 4)-1
00401	+076700000021	00	ALS 17	00471	+060100077776	010	STO 4)-1
00402	+062200000515	010	STD 43A7	00472	+050000000002	010	CLA (DFAD)
00403	+C50000046700	010	CLA NC	00473	+060100000002	00	STO 2
00404	+040200001132	010	SUB L	00474	-100000477402	010	STR A+1,4
00405	+062200000512	010	STD 43A6	00475	+000000472661	010	PZE A-2384,4
00406	+040000001064	010	ADD 2)+2	00476	+056000001074	010	LDQ 6)+5
00407	+062200000510	010	STD 43A4	00477	-060000000002	00	STQ 2
00410	+050000046700	010	CLA NC	00500	+050000077777	010	CLA 4)
00411	+040200001132	010	SUB L	00501	+060100477402	010	STO A+1,4
00412	+040000001072	010	ADD 6)+3	00502	+050000077776	010	CLA 4)-1
00413	+062200000507	010	STD 43A3	00503	+060100472661	010	STC A-2384,4
00414	+050000001133	010	CLA K	00504	+100001400505	010	43A1 TXI **1,4,1
00415	+060100001100	010	STO 1)+3	00505	+100001100506	010	TXI **1,1,1
00416	+056000001132	010	LDQ L	00506	-300000400456	010	43A2 TXL 43A,4
00417	+020000001064	010	MPY 2)+2	00507	+200000400510	010	43A3 TIX **1,4
00420	+076700000021	00	ALS 17	00510	+100000400511	010	43A4 TXI **1,4
00421	+040200001064	010	SUB 2)+2	00511	-063400400506	010	SXD 43A2,4
00422	+040000001100	010	ADD 1)+3	00512	+200000400513	010	43A6 TIX **1,4
00423	+060100001100	010	STO 1)+3	00513	+100055200514	010	TXI **1,2,4,5
00424	-053400201100	010	LXD 1)+3,2	00514	-063400201110	010	SXD C)102,2
00425	-063400201110	010	SXD C)102,2	00515	-300000400426	010	43A7 TXL 41A,4
00426	+050000277402	010	41A CLA A+1,2			44A	BSS

00516	-053400101116	010		LXD C)200,1	00606	-053400101112	010	LXD C)106,1
00517	+100000100520	010	44A1	TXI **1,1	00607	-100000177402	010	STR A+1,1
00520	-063400100343	010		SXD 38A2,1	00610	+000000172661	010	PZE A-2384,1
00521	+200000100522	010	44A3	TIX **1,1	00611	+056000001074	010	LDQ 6)+5
00522	-063400101116	010		SXD C)200,1	00612	-060000000002	00	STQ 2
00523	-053400201103	010		LXD C)G3,2	00613	+0560000077775	010	LDQ 4)-2
00524	+100001200525	010		TXI **1,2,1	00614	-060000277402	010	STQ A+1,2
00525	-063400201103	010		SXD C)G3,2	00615	+0560000077774	010	LDQ 4)-3
00526	-063400201133	010		SXD K,2	00616	-060000272661	010	STQ A-2384,2
00527	-053400401111	010		LXD C)105,4	00617	+050000001126	010	48A CLA NM1
00530	+100056400531	010		TXI **1,4,46	00620	+060100001133	010	STO K
00531	-063400401111	010		SXD C)105,4	00621	+007400401030	010	TSX A)102,4
00532	-300000200073	010	44A4	TXL D)103,2	00622	-053400401110	010	LXD C)102,4
00533	-053400101112	010		LXD C)106,1	00623	-063400401073	010	SXD 6)+4,4
00534	+050000177402	010	45A	CLA MA+1,1	00624	-053400401073	010	LXD 6)+4,4
00535	+076000000003	00		SSP	00625	+050000001133	010	49A CLA K
00536	+040200077403	010		SUB MTEST-6	00626	+060100001100	010	STO 1)+3
00537	+010000001024	010	45A1	YZE D)114	00627	+056000001133	010	LDQ K
00540	+012000000542	010		TPL 46A	00630	+020000001064	010	MPY 2)+2
00541	+002000001024	010		TRA D)114	00631	+076700000021	00	ALS 17
00542	+050000046700	010	46A	CLA NC	00632	+040200001064	010	SUB 2)+2
00543	+060100001100	010		STO 1)+3	00633	+040000001100	010	ADD 1)+3
00544	+056000001125	010		LDQ NP1	00634	+060100001100	010	STO 1)+3
00545	+020000001064	010		MPY 2)+2	00635	-053400401100	010	LXD 1)+3,4
00546	+076700000021	00		ALS 17	00636	-063400401114	010	SXD C)108,4
00547	+040200001064	010		SUB 2)+2	00637	+050000001133	010	CLA K
00550	+040000001100	010		ADD 1)+3	00640	+060100001100	010	STO 1)+3
00551	+060100001100	010		STO 1)+3	00641	+056000001134	010	LDQ J
00552	-053400201100	010		LXD 1)+3,2	00642	+020000001064	010	MPY 2)+2
00553	-063400201113	010		SXD C)107,2	00643	+076700000021	00	ALS 17
00554	+050000001133	010		CLA K	00644	+040200001064	010	SUB 2)+2
00555	+060100001100	010		STO 1)+3	00645	+040000001100	010	ADD 1)+3
00556	+056000001125	010		LDQ NP1	00646	+060100001100	010	STO 1)+3
00557	+020000001064	010		MPY 2)+2	00647	-053400201100	010	LXD 1)+3,2
00560	+076700000021	00		ALS 17	00650	-063400201106	010	SXD C)100,2
00561	+040200001064	010		SUB 2)+2	00651	-053400101133	010	LXD K,1
00562	+040000001100	010		ADD 1)+3	00652	-063400101122	010	SXD C)205,1
00563	+060100001100	010		STO 1)+3	00653	+050000001126	010	CLA NM1
00564	-053400401100	010		LXD 1)+3,4	00654	+062200000712	010	STD 50A2
00565	-063400401110	010		SXD C)102,4	00655	-053400101114	010	D)10R LXD C)108,1
00566	-053400401125	010		LXD NP1,4	00656	+056000177325	010	50A LDQ A-44,1
00567	-063400401123	010		SXD C)206,4	00657	-060000077775	010	STQ 4)-2
00570	+050000001130	010		CLA NCV	00660	+056000172604	010	LDQ A-2429,1
00571	+062200000731	010		STD 53A2	00661	-060000077774	010	STQ 4)-3
00572	-075400400000	00		PXD 0,4	00662	+050000000001	010	CLA (DFMP)
00573	+060100001134	010		STO J	00663	+060100000002	00	STO 2
00574	+002000000600	010		TRA 47A	00664	-100000277401	010	STR A,2
00575	-063400401123	010	E)10P	SXD C)206,4	00665	+000000272660	010	PZE A-2385,2
00576	-063400201113	010		SXD C)107,2	00666	+050200077777	010	CLS 4)
00577	-063400101110	010		SXD C)102,1	00667	+060100077777	010	STO 4)
00600	+050000277402	010	47A	CLA A+1,2	00670	+050200077776	010	CLS 4)-1
00601	+060100077777	010		STO 4)	00671	+060100077776	010	STO 4)-1
00602	+050000272661	010		CLA A-2384,2	00672	+050000000002	010	CLA (DFAD)
00603	+060100077776	010		STO 4)-1	00673	+060100000002	00	STO 2
00604	+050000000000	010		CLA (DFDP)	00674	-053400401110	010	LXD C)102,4
00605	+060100000002	00		STO 2	00675	-100000477402	010	STR A+1,4

SOLW2

00676	+000000472661	010	PZE	A-2384,4	00765	+060100001100	010	STO	11+3		
00677	+056000001074	010	LDQ	61+5	00766	-053400101100	010	LXD	11+3,1		
00700	-060000000002	00	STQ	2	00767	-063400101115	010	SXD	C1109,1		
00701	+050000077777	010	CLA	4)	00770	-053400201101	010	D1610	LXD C1G1,2		
00702	+060100477402	010	STO	A+1,4	00771	-053400401115	010	D1410	LXD C1109,4		
00703	+050000077776	010	CLA	4)-1	00772	+050000246523	010	59A	CLA N1+1,2		
00704	+060100472661	010	STO	A-2384,4	00773	+040000001127	010		ADD NE		
00705	+100055100706	010	50A1	TXI	**+1,1,45	00774	+060100001132	010	STO	L	
00706	+100001200707	010		TXI	**+1,2,1	00775	-053400101132	010	LXD	L,1	
00707	-053400401122	010		LXD	C1205,4	00776	-063400101105	010	SXD	C1G5,1	
00710	+100001400711	010		TXI	**+1,4,1	00777	+050000477402	010	60A	CLA A+1,4	
00711	-063400401122	010		SXD	C1205,4	01000	+060100077777	010		STO	4)
00712	-300000400656	010	50A2	TXL	50A,4	01001	+050000472661	010		CLA	A-2384,4
00713	+050000001133	010	51A	CLA	K	01002	+060100077776	010		STO	4)-1
00714	+040200001063	010		SUB	21+1	01003	+050000077777	010		CLA	4)
00715	+060100001133	010		STO	K	01004	+060100165652	010		STO	C+1,1
00716	+007400401030	010		TSX	A1102,4	01005	+050000077776	010		CLA	4)-1
00717	-053400101110	010		LXD	C1102,1	01006	+060100163212	010		STO	C-1311,1
00720	+050000001133	010	52A	CLA	K	01007	+100001201010	010	60A1	TXI	**+1,2,1
00721	+010000000723	010	52A1	TZE	53A	01010	+100001401011	010		TXI	**+1,4,1
00722	+012000000625	010		TPL	49A	01011	-300000200772	010	60A2	TXL	59A,2
			53A	BSS		01012	-053400201124	010		LXD	C1207,2
00723	-053400201113	010		LXD	C1107,2	01013	+100001201014	010		TXI	**+1,2,1
00724	+100055200725	010	53A1	TXI	**+1,2,45	01014	-063400201124	010		SXD	C1207,2
00725	+100055100726	010		TXI	**+1,1,45	01015	-063400201134	010		SXD	J,2
00726	-053400401123	010		LXD	C1206,4	01016	-300000200744	010	60A4	TXL	56A,2
00727	+100001400730	010		TXI	**+1,4,1	01017	-053400101102	010	D1113	LXD	C1G2,1
00730	-063400401134	010		SXD	J,4	01020	-053400100003	010	61A	LXD	\$,1
00731	-300000400575	010	53A2	TXL	E110P,4	01021	-053400200004	010		LXD	\$+1,2
00732	-053400101104	010		LXD	C1G4,1	01022	-053400400005	010		LXD	\$+2,4
00733	+050000146726	010	54A	CLA	NCOE+1,1	01023	+002000400001	00		TRA	1,4
00734	+040200046700	010		SUB	NC	01024	-053400101102	010	D1114	LXD	C1G2,1
00735	+060100001127	010		STO	NE	01025	+050000046677	010	63A	CLA	NDEG
00736	-053400201063	010	55A	LXD	21+1,2	01026	+060100046676	010		STO	IERR
00737	-063400201124	010		SXD	C1207,2	01027	+002000001020	010	64A	TRA	61A
00740	+050000077460	010		CLA	NV	01030	+050000001072	010	A1102	CLA	61+3
00741	+062200001016	010		STO	60A4	01031	+060100001100	010		STO	11+3
00742	-075400200000	00		PXD	0,2	01032	+050000001133	010		CLA	K
00743	+060100001134	010		STO	J	01033	+040200001072	010		SUB	61+3
00744	+050000001127	010	56A	CLA	NE	01034	+040000001100	010		ADD	11+3
00745	+040000046700	010		ADD	NC	01035	+060100001100	010		STO	11+3
00746	+060100001127	010		STO	NE	01036	+056000001134	010		LDQ	J
00747	+050000001134	010	57A	CLA	J	01037	+020000001064	010		MPY	21+2
00750	+040000046700	010		ADD	NC	01040	+076700000021	00		ALS	17
00751	+060100001131	010		STO	M	01041	+040200001064	010		SUB	21+2
00752	-053400401063	010	58A	LXD	21+1,4	01042	+040000001100	010		ADD	11+3
00753	-063400401101	010		SXD	C1G1,4	01043	+060100001110	010		STO	C1102
00754	+050000046700	010		CLA	NC	01044	+002000400001	00		TRA	1,4
00755	+062200001011	010		STO	60A2	01045	+050000001072	010	A1106	CLA	61+3
00756	+050000001072	010		CLA	61+3	01046	+060100001100	010		STO	11+3
00757	+060100001100	010		STO	11+3	01047	+050000046700	010		CLA	NC
00760	+056000001131	010		LDQ	M	01050	+040200001072	010		SUB	61+3
00761	+020000001064	010		MPY	21+2	01051	+040000001100	010		ADC	11+3
00762	+076700000021	00		ALS	17	01052	+060100001100	010		STO	11+3
00763	+040200001064	010		SUB	21+2	01053	+056000046700	010		LDQ	NC
00764	+040000001100	010		ADD	11+3	01054	+020000001064	010		MPY	21+2

SOLW2

01055	+076700000021	00		ALS	17
01056	+040200001064	010		SUB	2)+2
01057	+040000001100	010		ADD	1)+3
01060	+060100001112	010		STO	C)106
01061	+002000400001	00		TRA	1,4
01062	+000000000000	00	2)	OCT	+000000000000
01063	+000001000000	00		OCT	+000001000000
01064	+000055000000	00		OCT	+000055000000
01065	-224643660260	00	3)	OCT	-224643660260
01066	+000000000000	00		OCT	+000000000000
01067	+233000000000	00	6)	CCT	+233000000000
01070	+000000377777	00		OCT	+000000377777
01071	+000000000000	00		OCT	+000000000000
01072	+000001000000	00		OCT	+000001000000
01073	+000000000000	00		OCT	+000000000000
01074	+000000000000	00		OCT	+000000000000

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

C	SCALE WITH DIAGONAL ELEMENTS IN ORDER OF DECREASING SIZE.	SOLVE2 2
	SUBROUTINE SOLVE	SOLVE2 3
	DIMENSION NT(48),TEST(8),MTEST(8),DUM1(4770),NCOE(9),ZNAME(12),	SOLVE2 4
	IDUM2(110),DUM3(6),X(22),XX(8),SSUM(16),SSRED(8,8),NCT(16)	SOLVE2 5
D	DIMENSION A(45,53),MA(45,53),T(90),MT(90),TEMP(1),MTEMP(1),C(1312)	SOLVE2 6
	1,MC(1312)	SOLVE2 7
	COMMON NT,A,T,TEMP,C,DUM1,X,XX,DUM3,SSUM,SSRED,DUM2,NCT,	SOLVE2 8
	1 NCOE,ZNAME,NC,NDEG,IERR	SOLVE2 9
	EQUIVALENCE (NV,NT(2)),(NFIRST,NT(3)),	SOLVE210
	1 (TEST,MTEST,NT(41)),(A,MA),(T,MT),(TEMP,	SOLVE211
	1MTEMP),(C,MC)	SOLVE212
B	ZNAME(1)=624643652502	SOLVE213
	IERR=0	SOLVE214
	NCV=NC+NV	SOLVE215
	DO 5 J=1,NV	SOLVE216
	L=J+NC	SOLVE217
	XX(J)=SSUM(J)-(A(1,L)*A(1,L))/A(1,1)	SOLVE218
5	X(J)=SSUM(J)	SOLVE219
	NDG=NFIRST	SOLVE220
	NCF=NCT(NDG)	SOLVE221
	DC 60 K=1,NC	SOLVE222
	IF (XABSF(MA(K,K))-MTEST(7)) 80,80,6	SOLVE223
6	L=K+1	SOLVE224
	IF (K-NC) 7,9,7	SOLVE225
7	DC 8 J=L,NC	SOLVE226
D	A(J,K)=A(K,J)	SOLVE227
D	8 A(K,J)=A(K,J)/A(K,K)	SOLVE228
	9 DC 12 J=1,NV	SOLVE229
	N=J+NC	SOLVE230
	TEMP=A(K,N)	SOLVE231
D	A(K,N)=A(K,N)/A(K,K)	SOLVE232
12	X(J)=X(J)-A(K,N)*TEMP	SOLVE233
	IF (K-NCF) 40,15,40	SOLVE234
15	NB=NCOE(NDG)	SOLVE235
	DC 16 J=1,NV	SOLVE236
16	SSRED(NDG,J)=100.*((XX(J)-X(J))/XX(J))	SOLVE237
	DO 19 J=1,NV	SOLVE238
	IF (SSRED(NDG,J)) 100,21,17	SOLVE239
17	IF (SSRED(NDG,J)-100.) 18,19,100	SOLVE240
18	IF (SSRED(NDG,J)-SSRED(NDG-1,J)) 21,19,19	SOLVE241
21	IF (NDG-NFIRST) 19,19,100	SOLVE242
19	CONTINUE	SOLVE243
	DC 30 J=1,NV	SOLVE244
	N=J+NC	SOLVE245
	NS=NB+NCF	SOLVE246
D	C(NS)=A(K,N)	SOLVE247
	I=K	SOLVE248
20	NS=NS-1	SOLVE249
	NB=NS	SOLVE250
D	C(NS)=A(I-1,N)	SOLVE251
	DC 25 M=I,K	SOLVE252
	NB=NB+1	SOLVE253
D	25 C(NS)=C(NS)-A(I-1,M)*C(NB)	SOLVE254
	I=I-1	SOLVE255
	IF (I-1) 30,30,20	SOLVE256

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

30	CONTINUE	SOLVE257
	NDG=NDG+1	SOLVE258
	NCF=NCT(NDG)	SOLVE259
	IF (K-NC) 40,70,70	SOLVE260
40	DC 50 I=L,NC	SOLVE261
	DC 50 J=I,NCV	SOLVE262
D 50	A(I,J)=A(I,J)-A(I,K)*A(K,J)	SOLVE263
60	CONTINUE	SOLVE264
70	RETURN	SOLVE265
80	IERR=NDG	SOLVE266
	NDEG=NDG	SOLVE267
	GO TO 70	SOLVE268
100	NDEG=NDG	SOLVE269
	IERR=-NDG	SOLVE270
	GO TO 70	SOLVE271
	END(1,1,0,0,1,0,1,1,0,1,0,0,0,0,0)	

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

00000	-342426244734	00	(DFDP)	BCD	1(DFDP)	00070	+040000001026	010	ADD	1)+3	
00001	-342426444734	00	(DFMP)	BCD	1(DFMP)	00071	+060100001026	010	STO	1)+3	
00002	-342426212434	00	(DFAD)	BCD	1(DFAD)	00072	-053400401026	010	LXD	1)+3,4	
00003	+000000000000	00	\$	PZE		00073	-063400401037	010	SXD	C)105,4	
00004	+000000000000	00		PZE		00074	-053400401011	010	LXD	2)+1,4	
00005	+000000000000	00		PZE		00075	-063400401054	010	SXD	C)207,4	
00006	-224643652560	00		BCD	1SOLVE	00076	+050000046700	010	CLA	NC	
00007	-063400100003	010		SXD	\$,1	00077	+062200000720	010	STD	58A2	
00010	-063400200004	010		SXD	\$+1,2	00100	-075400400000	00	PXC	0,4	
00011	-063400400005	010		SXD	\$+2,4	00101	+060100001064	010	STO	K	
00012	+050000000002	00	1A	CLA	2	00102	+002000000104	010	TRA	17A	
00013	+060100001022	010		STO	6)+5	00103	-053400201030	010	D)203	LXD C)G2,2	
00014	-050000000103	010	7A	CAL	3)	00104	+050000177402	010	17A	CLA MA+1,1	
00015	+060200046714	010		SLW	ZNAME	00105	+076000000003	00	SSP		
00016	+050000001010	010	8A	CLA	2)	00106	+040200077403	010	SUB	MTEST-6	
00017	+060100046676	010		STO	IERR	00107	+010000000733	010	17A1	TZE	61A
00020	+050000046700	010	9A	CLA	NC	00110	+012000000112	010		TPL	18A
00021	+040000077460	010		ADD	NV	00111	+002000000733	010		TRA	61A
00022	+060100001060	010		STO	NCV	00112	+050000001064	010	18A	CLA	K
00023	-053400201011	010	10A	LXD	2)+1,2	00113	+040000001011	010		ADD	2)+1
00024	+050000077460	010		CLA	NV	00114	+060100001063	010		STO	L
00025	+062200000052	010		STD	13A2	00115	+007400400745	010		TSX	A)100,4
00026	-075400200000	00		PXD	0,2	00116	-053400401033	010		LXD	C)100,4
00027	+060100001065	010		STO	J	00117	-063400401021	010		SXD	6)+4,4
00030	+050000001065	010	11A	CLA	J	00120	-053400401021	010		LXD	6)+4,4
00031	+040000046700	010		ADD	NC	00121	+050000001064	010	19A	CLA	K
00032	+060100001063	010		STO	L	00122	+040200046700	010		SUB	NC
00033	+007400400745	010		TSX	A)100,4	00123	+010000000216	010	19A1	TZE	23A
00034	-053400401033	010		LXD	C)100,4	00124	-063400101034	010	E)5	SXD	C)102,1
00035	-063400401021	010		SXD	6)+4,4	00125	+050000001063	010	20A	CLA	L
00036	-053400401021	010		LXD	6)+4,4	00126	+060100001026	010		STO	1)+3
00037	+056000477402	010	12A	LQ	A+1,4	00127	+056000001064	010		LQ	K
00040	+026000477402	010		FMP	A+1,4	00130	+020000001012	010		MPY	2)+2
00041	+024100077401	010		FDP	A	00131	+076700000021	00		ALS	17
00042	-060000001024	010		STQ	1)+1	00132	+040200001012	010		SUB	2)+2
00043	+050000247244	010		CLA	SSUM+1,2	00133	+040000001026	010		ADD	1)+3
00044	+030200001024	010		FSB	1)+1	00134	+060100001026	010		STO	1)+3
00045	+060100247262	010		STO	XX+1,2	00135	-053400401026	010		LXD	1)+3,4
00046	+050000247244	010	13A	CLA	SSUM+1,2	00136	-063400401035	010		SXD	C)103,4
00047	+060100247310	010		STO	X+1,2	00137	+050000001064	010		CLA	K
00050	+100001200051	010	13A1	TXI	*+1,2,1	00140	+060100001026	010		STO	1)+3
00051	-063400201065	010		SXD	J,2	00141	+056000001063	010		LQ	L
00052	-300000200030	010	13A2	TXL	11A,2	00142	+020000001012	010		MPY	2)+2
00053	+050000077457	010	14A	CLA	NFIRST	00143	+076700000021	00		ALS	17
00054	+060100001057	010		STO	NDG	00144	+040200001012	010		SUB	2)+2
00055	-053400201057	010		LXD	NDG,2	00145	+040000001026	010		ADD	1)+3
00056	-063400201030	010		SXD	C)G2,2	00146	+060100001026	010		STO	1)+3
00057	+050000246746	010	15A	CLA	NCT+1,2	00147	-053400101026	010		LXD	1)+3,1
00060	+060100001061	010		STO	NCF	00150	-063400101052	010		SXD	C)205,1
00061	-053400101011	010	16A	LXD	2)+1,1	00151	-053400201063	010		LXD	L,2
00062	+050000001020	010		CLA	6)+3	00152	-063400201053	010		SXD	C)206,2
00063	+060100001026	010		STO	1)+3	00153	+050000046700	010		CLA	NC
00064	+056000001056	010		LQ	N	00154	+062200000213	010		STD	22A2
00065	+020000001012	010		MPY	2)+2	00155	-053400101035	010	D)306	LXD	C)103,1
00066	+076700000021	00		ALS	17	00156	-053400201052	010	D)206	LXD	C)205,2
00067	+040200001012	010		SUB	2)+2	00157	+050000277402	010	21A	CLA	A+1,2

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

00160	+060100077777	010	STO 4)	00250	-060000000002	00	STQ 2
00161	+050000272661	010	CLA A-2384,2	00251	+056000077775	010	LDQ 4)-2
00162	+060100077776	010	STO 4)-1	00252	-060000477402	010	STQ A+1,4
00163	+050000077777	010	CLA 4)	00253	+056000077774	010	LDQ 4)-3
00164	+060100177402	010	STO A+1,1	00254	-060000472661	010	STQ A-2384,4
00165	+050000077776	010	CLA 4)-1	00255	+056000477402	010 27A	LDQ A+1,4
00166	+060100172661	010	STO A-2384,1	00256	+026000065653	010	FMP TEMP
00167	+050000277402	010 22A	CLA A+1,2	00257	+076000000002	00	CHS
00170	+060100077777	010	STO 4)	00260	-053400401027	010	LXD C)G1,4
00171	+050000272661	010	CLA A-2384,2	00261	+030000447310	010	FAD X+1,4
00172	+060100077776	010	STO 4)-1	00262	+060100447310	010	STO X+1,4
00173	+050000000000	010	CLA (DFDP)	00263	+100001400264	010 27A1	TXI **1,4,1
00174	+060100000002	00	STO 2	00264	-063400401027	010	SXD C)G1,4
00175	-053400401034	010	LXD C)102,4	00265	-063400401065	010	SXD J,4
00176	-100000477402	010	STR A+1,4	00266	-300000400224	010 27A2	TXL 24A,4
00177	+000000472661	010	PZE A-2384,4	00267	-063400101034	010 E)A	SXD C)102,1
00200	+056000001022	010	LDQ 6)+5	00270	+050000001064	010 28A	CLA K
00201	-060000000002	00	STQ 2	00271	+040200001061	010	SUB NCF
00202	+056000077775	010	LDQ 4)-2	00272	+010000000275	010 28A1	TZE D)40B
00203	-060000277402	010	STQ A+1,2	00273	+012000000565	010	TPL 55A
00204	+056000077774	010	LDQ 4)-3	00274	+002000000565	010	TRA 55A
00205	-060000272661	010	STQ A-2384,2	00275	-053400401030	010 D)40B	LXD C)G2,4
00206	+100001100207	010 22A1	TXI **1,1,1	00276	+050000446726	010 29A	CLA NCQE+1,4
00207	+100055200210	010	TXI **1,2,4,5	00277	+060100001062	010	STO NB
00210	-053400401053	010	LXD C)206,4	00300	-053400201062	010	LXD NB,2
00211	+100001400212	010	TXI **1,4,1	00301	-063400201032	010	SXD C)G4,2
00212	-063400401053	010	SXD C)206,4	00302	-053400201057	010 30A	LXD NDG,2
00213	-300000400157	010 22A2	TXL 2)A,4	00303	-053400401011	010	LXD 2)+1,4
00214	-053400101034	010 D)308	LXD C)102,1	00304	+050000077460	010	CLA NV
00215	-053400201030	010 D)208	LXD C)G2,2	00305	+062200000315	010	STD 31A2
00216	-053400401011	010 23A	LXD 2)+1,4	00306	+050000447262	010 31A	CLA XX+1,4
00217	-063400401027	010	SXD C)G1,4	00307	+030200447310	010	FSB X+1,4
00220	+050000077460	010	CLA NV	00310	+024100447262	010	FDP XX+1,4
00221	+062200000266	010	STD 27A2	00311	+026000001014	010	FMP 3)+1
00222	-075400400000	00	PXD 0,4	00312	+060100247224	010	STO SSRED+1,2
00223	+060100001065	010	STO J	00313	+100010200314	010 31A1	TXI **1,2,8
00224	+050000001065	010 24A	CLA J	00314	+100001400315	010	TXI **1,4,1
00225	+040000046700	010	ADD NC	00315	-300000400306	010 31A2	TXL 31A,4
00226	+060100001056	010	STO N	00316	-053400201057	010 32A	LXD NDG,2
00227	+007400400756	010	TSX A)105,4	00317	-063400201040	010	SXD C)106,2
00230	-053400401037	010	LXD C)105,4	00320	-053400401011	010	LXD 2)+1,4
00231	-063400401021	010	SXD 6)+4,4	00321	-063400401051	010	SXD C)204,4
00232	+007400400773	010	TSX A)107,4	00322	+050000077460	010	CLA NV
00233	-053400201041	010	LXD C)107,2	00323	+062200000362	010	STD 37A2
00234	-053400401021	010	LXD 6)+4,4	00324	+050000247224	010 33A	CLA SSRED+1,2
00235	+050000477402	010 25A	CLA A+1,4	00325	+010000000346	010 33A1	TZE 36A
00236	+060100065653	010	STO TEMP	00326	+012000000332	010	TPL 34A
00237	+050000477402	010 26A	CLA A+1,4	00327	-075400400000	00 33A2	PXD 0,4
00240	+060100077777	010	STO 4)	00330	+060100001065	010	STO J
00241	+050000472661	010	CLA A-2384,4	00331	+002000000740	010	TRA 64A
00242	+060100077776	010	STO 4)-1	00332	+050000247224	010 34A	CLA SSRED+1,2
00243	+050000000000	010	CLA (DFDP)	00333	+030200001014	010	FSB 3)+1
00244	+060100000002	00	STO 2	00334	+010000000356	010 34A1	TZE 37A
00245	-100000177402	010	STR A+1,1	00335	+012000000337	010	TPL 34A2
00246	+000000172661	010	PZE A-2384,1	00336	+002000000342	010	TRA 35A
00247	+056000001022	010	LDQ 6)+5	00337	-075400400000	00 34A2	PXD 0,4

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

00340	+060100001065	010		STO J	00427	-053400401041	010	D1400	LXD C)107,4
00341	+002000000740	010		TRA 64A	00430	+050000001055	010	43A	CLA NS
00342	+050000247224	010	35A	CLA SSRED+1,2	00431	+040200001011	010		SUB 2)+1
00343	+030200247225	010		FSB SSRED+2,2	00432	+060100001055	010		STO NS
00344	+010000000356	010	35A1	TZE 37A	00433	-053400201055	010		LXD NS,2
00345	+012000000356	010		TPL 37A	00434	-063400201031	010		SXD C)G3,2
00346	+050000001057	010	36A	CLA NDG	00435	+050000001055	010	44A	CLA NS
00347	+040200077457	010		SUB NFIRST	00436	+060100001062	010		STO NB
00350	+010000000356	010	36A1	TZE 37A	00437	-053400101062	010		LXD NB,1
00351	+012000000353	010		TPL 36A2	00440	-063400101032	010		SXD C)G4,1
00352	+002000000356	010		TRA 37A	00441	+050000477403	010	45A	CLA A+2,4
00353	-075400400000	00	36A2	PXD 0,4	00442	+060100077777	010		STO 4)
00354	+060100001065	010		STO J	00443	+050000472662	010		CLA A-2383,4
00355	+002000000740	010		TRA 64A	00444	+060100077776	010		STO 4)-1
			37A	BSS	00445	+050000077777	010		CLA 4)
00356	+100010200357	010	37A1	TXI *+1,2,8	00446	+060100265652	010		STO C+1,2
00357	-063400201040	010		SXD C)106,2	00447	+050000077776	010		CLA 4)-1
00360	+100001400361	010		TXI *+1,4,1	00450	+060100263212	010		STO C-1311,2
00361	-063400401051	010		SXD C)204,4	00451	+050000001066	010	46A	CLA I
00362	-300000400324	010	37A2	TXL 33A,4	00452	+060100001026	010		STO 1)+3
00363	-053400201011	010	38A	LXD 2)+1,2	00453	+056000001066	010		LDQ I
00364	-063400201050	010		SXD C)203,2	00454	+020000001012	010		MPY 2)+2
00365	+050000077460	010		CLA NV	00455	+076700000021	00		ALS 17
00366	+062200000550	010		STD 51A2	00456	+040200001012	010		SUB 2)+2
00367	-075400200000	00		PXD 0,2	00457	+040000001026	010		ADD 1)+3
00370	+060100001065	010		STO J	00460	+060100001026	010		STO 1)+3
00371	+050000001065	010	39A	CLA J	00461	-053400401026	010		LXD 1)+3,4
00372	+040000046700	010		ADD NC	00462	-063400401042	010		SXD C)108,4
00373	+060100001056	010		STO N	00463	-053400101066	010		LXD I,1
00374	+007400400756	010		TSX A)105,4	00464	-063400101047	010		SXD C)202,1
00375	-053400101037	010		LXD C)105,1	00465	+050000001064	010		CLA K
00376	+007400400773	010		TSX A)107,4	00466	+062200000530	010		STD 48A2
00377	-053400401041	010		LXD C)107,4	00467	-053400201042	010	D160P	LXD C)108,2
00400	-063400401021	010		SXD 6)+4,4	00470	-053400401031	010	D140P	LXD C)G3,4
00401	-053400401021	010		LXD 6)+4,4	00471	+050000001062	010	47A	CLA NB
00402	+050000001062	010	40A	CLA NB	00472	+040000001011	010		ADD 2)+1
00403	+040000001061	010		ADD NCF	00473	+060100001062	010		STO NB
00404	+060100001055	010		STO NS	00474	-053400101062	010		LXD NB,1
00405	-053400401055	010		LXD NS,4	00475	-063400101032	010		SXD C)G4,1
00406	-063400401031	010		SXD C)G3,4	00476	+056000277403	010	48A	LDQ A+2,2
00407	+050000177402	010	41A	CLA A+1,1	00477	-060000077775	010		STQ 4)-2
00410	+060100077777	010		STO 4)	00500	+056000272662	010		LDQ A-2383,2
00411	+050000172661	010		CLA A-2384,1	00501	-060000077774	010		STQ 4)-3
00412	+060100077776	010		STO 4)-1	00502	+050000000001	010		CLA (DFMP)
00413	+050000077777	010		CLA 4)	00503	+060100000002	00		STO 2
00414	+060100465652	010		STC C+1,4	00504	-100000165652	010		STR C+1,1
00415	+050000077776	010		CLA 4)-1	00505	+000000163212	010		PZE C-1311,1
00416	+060100463212	010		STC C-1311,4	00506	+050200077777	010		CLS 4)
00417	+050000001064	010	42A	CLA K	00507	+060100077777	010		STO 4)
00420	+060100001066	010		STO I	00510	+050200077776	010		CLS 4)-1
00421	-063400401021	010		SXD 6)+4,4	00511	+060100077776	010		STO 4)-1
00422	+007400400773	010		TSX A)107,4	00512	+050000000002	010		CLA (DFAD)
00423	-053400401041	010		LXD C)107,4	00513	+060100000002	00		STO 2
00424	-063400401021	010		SXD 6)+4,4	00514	-100000465652	010		STR C+1,4
00425	-053400401021	010		LXD 6)+4,4	00515	+000000463212	010		PZE C-1311,4
00426	+002000000430	010		TRA 43A	00516	+056000001022	010		LDQ 6)+5

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

00517	-060000000002	00	STQ 2	00606	+050000001066	010	56A	CLA I
00520	+050000077777	010	CLA 4)	00607	+060100001026	010		STO 1)+3
00521	+060100465652	010	STO C+1,4	00610	+056000001066	010		LDQ I
00522	+050000077776	010	CLA 4)-1	00611	+020000001012	010		MPY 2)+2
00523	+060100463212	010	STO C-1311,4	00612	+076700000021	00		ALS 17
00524	+100055200525	010	48A1 TXI *+1,2,45	00613	+040200001012	010		SUB 2)+2
00525	-053400101047	010	LXD C)202,1	00614	+040000001026	010		ADD 1)+3
00526	+100001100527	010	TXI *+1,1,1	00615	+060100001026	010		STO 1)+3
00527	-063400101047	010	SXD C)202,1	00616	-053400401026	010		LXD 1)+3,4
00530	-300000100471	010	48A2 TXL 47A,1	00617	-063400401043	010		SXD C)109,4
00531	+050000001066	010	49A CLA I	00620	+050000001064	010		CLA K
00532	+040200001011	010	SUB 2)+1	00621	+060100001026	010		STO 1)+3
00533	+060100001066	010	STO I	00622	+056000001066	010		LDQ I
00534	-063400401021	010	SXD 6)+4,4	00623	+020000001012	010		MPY 2)+2
00535	+007400400773	010	TSX A)107,4	00624	+076700000021	00		ALS 17
00536	-053400101041	010	LXD C)107,1	00625	+040200001012	010		SUB 2)+2
00537	-053400401021	010	LXD 6)+4,4	00626	+040000001026	010		ADD 1)+3
00540	+050000001066	010	50A CLA I	00627	+060100001026	010		STO 1)+3
00541	+040200001011	010	SUB 2)+1	00630	-053400401026	010		LXD 1)+3,4
00542	+010000000544	010	50A1 TZE 51A	00631	-063400401036	010		SXD C)104,4
00543	+012000000427	010	TPL D)400	00632	-053400201066	010		LXD 1,2
			51A BSS	00633	-063400201045	010		SXD C)200,2
00544	-053400201050	010	LXD C)203,2	00634	+050000001060	010		CLA NCV
00545	+100001200546	010	51A1 TXI *+1,2,1	00635	+062200000675	010		STO 57A2
00546	-063400201050	010	SXD C)203,2	00636	-053400201036	010	D160V	LXD C)104,2
00547	-063400201065	010	SXD J,2	00637	-053400401045	010	D140V	LXD C)200,4
00550	-300000200371	010	51A2 TXL 39A,2	00640	+002000000642	010		TRA 57A
00551	+050000001057	010	52A CLA NDG	00641	-053400101044	010	D110V	LXD C)10A,1
00552	+040000001011	010	ADD 2)+1	00642	+056000177402	010	57A	LDQ A+1,1
00553	+060100001057	010	STO NDG	00643	-060000077775	010		STQ 4)-2
00554	-053400201057	010	LXD NDG,2	00644	+056000172661	010		LDQ A-2384,1
00555	-063400201030	010	SXD C)G2,2	00645	-060000077774	010		STQ 4)-3
00556	+050000246746	010	53A CLA NCT+1,2	00646	+050000000001	010		CLA (DFMP)
00557	+060100001061	010	STO NCF	00647	+060100000002	00		STO 2
00560	+050000001064	010	54A CLA K	00650	-100000277402	010		STR A+1,2
00561	+040200046700	010	SUB NC	00651	+000000272661	010		PZE A-2384,2
00562	+010000000722	010	54A1 TZE D)513	00652	+050200077777	010		CLS 4)
00563	+012000000722	010	TPL D)513	00653	+060100077777	010		STO 4)
00564	-053400101034	010	D110T LXD C)102,1	00654	+050200077776	010		CLS 4)-1
00565	+050000001063	010	55A CLA L	00655	+060100077776	010		STO 4)-1
00566	+060100001026	010	STO 1)+3	00656	+050000000002	010		CLA (DFAD)
00567	+056000001064	010	LDQ K	00657	+060100000002	00		STO 2
00570	+020000001012	010	MPY 2)+2	00660	-053400101043	010		LXD C)109,1
00571	+076700000021	00	ALS 17	00661	-100000177402	010		STR A+1,1
00572	+040200001012	010	SUB 2)+2	00662	+000000172661	010		PZE A-2384,1
00573	+040000001026	010	ADD 1)+3	00663	+056000001022	010		LDQ 6)+5
00574	+060100001026	010	STO 1)+3	00664	-060000000002	00		STQ 2
00575	-053400401026	010	LXD 1)+3,4	00665	+050000077777	010		CLA 4)
00576	-063400401044	010	SXD C)10A,4	00666	+060100177402	010		STO A+1,1
00577	-053400201063	010	LXD L,2	00667	+050000077776	010		CLA 4)-1
00600	-063400201046	010	SXD C)201,2	00670	+060100172661	010		STO A-2384,1
00601	+050000046700	010	CLA NC	00671	+100055100672	010	57A1	TXI *+1,1,45
00602	+062200000705	010	STD 57A4	00672	-063400101043	010		SXD C)109,1
00603	-075400200000	00	PXD 0,2	00673	+100055200674	010		TXI *+1,2,45
00604	+060100001066	010	STO I	00674	+100001400675	010		TXI *+1,4,1
00605	-053400101044	010	D110U LXD C)10A,1	00675	-300000400641	010	57A2	TXL D)10V,4

SOLVE2--ALL COEFFICIENTS, SSRED, IN ONE PASS. LST. SQS. MATRIX ONLY.

00676	-053400101044	010		LXD C)10A,1	00765	+020000001012	010	MPY 21+2
00677	+100001100700	010		TXI *+1,1,1	00766	+076700000021	00	ALS 17
00700	-063400101044	010		SXD C)10A,1	00767	+040200001012	010	SUB 21+2
00701	-053400201046	010		LXD C)201,2	00770	+040000001026	010	ADD 11+3
00702	+100001200703	010		TXI *+1,2,1	00771	+060100001037	010	STO C)105
00703	-063400201046	010		SXD C)201,2	00772	+002000400001	00	TRA 1,4
00704	-063400201066	010		SXD I,2	00773	+050000001020	010	A1107 CLA 61+3
00705	-300000200606	010	57A4	TXL 56A,2	00774	+060100001026	010	STO 11+3
			58A	BSS	00775	+050000001066	010	CLA I
00706	-053400101034	010		LXD C)102,1	00776	+040200001020	010	SUB 61+3
00707	+100056100710	010	58A1	TXI *+1,1,46	00777	+040000001026	010	ADD 11+3
00710	-063400101034	010		SXD C)102,1	01000	+060100001026	010	STO 11+3
00711	-053400201037	010		LXD C)105,2	01001	+056000001056	010	LDQ N
00712	+100001200713	010		TXI *+1,2,1	01002	+020000001012	010	MPY 21+2
00713	-063400201037	010		SXD C)105,2	01003	+076700000021	00	ALS 17
00714	-053400401054	010		LXD C)207,4	01004	+040200001012	010	SUB 21+2
00715	+100001400716	010		TXI *+1,4,1	01005	+040000001026	010	ADD 11+3
00716	-063400401054	010		SXD C)207,4	01006	+060100001041	010	STO C)107
00717	-063400401064	010		SXD K,4	01007	+002000400001	00	TRA 1,4
00720	-300000400103	010	58A2	TXL D)203,4	01010	+000000000000	00	2) OCT +000000000000
00721	-053400201030	010	D)1713	LXD C)G2,2	01011	+000001000000	00	OCT +000001000000
00722	-053400101034	010	D)513	LXD C)102,1	01012	+000055000000	00	OCT +000055000000
00723	-053400401054	010	D)413	LXD C)207,4	01013	-224643652502	00	3) OCT -224643652502
00724	+002000000727	010		TRA 59A	01014	+207620000000	00	OCT +207620000000
00725	-053400201030	010	D)613	LXD C)G2,2	01015	+233000000000	00	6) OCT +233000000000
00726	+002000000723	010		TRA D)413	01016	+000000377777	00	OCT +000000377777
00727	-053400100003	010	59A	LXD \$,1	01017	+000000000000	00	OCT +000000000000
00730	-053400200004	010		LXD \$+1,2	01020	+000001000000	00	OCT +000001000000
00731	-053400400005	010		LXD \$+2,4	01021	+000000000000	00	OCT +000000000000
00732	+002000400001	00		TRA 1,4	01022	+000000000000	00	OCT +000000000000
00733	+050000001057	010	61A	CLA NDG				
00734	+060100046676	010		STO IERR				
00735	+050000001057	010	62A	CLA NDG				
00736	+060100046677	010		STO NDEG				
00737	+002000000727	010	63A	TRA 59A				
00740	+050000001057	010	64A	CLA NDG				
00741	+060100046677	010		STO NDEG				
00742	+050200001057	010	65A	CLS NDG				
00743	+060100046676	010		STO IERR				
00744	+002000000725	010	66A	TRA D)613				
00745	+050000001020	010	A1100	CLA 61+3				
00746	+060100001026	010		STO 11+3				
00747	+056000001063	010		LDQ L				
00750	+020000001012	010		MPY 21+2				
00751	+076700000021	00		ALS 17				
00752	+040200001012	010		SUB 21+2				
00753	+040000001026	010		ADD 11+3				
00754	+060100001033	010		STO C)100				
00755	+002000400001	00		TRA 1,4				
00756	+050000001020	010	A1105	CLA 61+3				
00757	+060100001026	010		STO 11+3				
00760	+050000001064	010		CLA K				
00761	+040200001020	010		SUB 61+3				
00762	+040000001026	010		ADD 11+3				
00763	+060100001026	010		STO 11+3				
00764	+056000001056	010		LDQ N				

00002 ENTRY SPEC

TRANSFER VECTOR

BINARY CARD NO. DSPEC001

00000 746263303460 (STH)
00001 742631433460 (FIL)

00002	0634 00 4 00007	SPEC	SXA	RET,4
00003	-0500 00 0 00041		CAL	=06000000
00004	0074 00 4 00000		TSX	\$(STH),4
00005	0 00001 0 00011		PZE	F1,,1
00006	0074 00 4 00001		TSX	\$(FIL),4
00007	0774 00 4 00000	RET	AXT	**,4
00010	0020 00 4 00001		TRA	1,4
00011	740130006104	F1	BCI	,(1H0/43H0DUMMY SUBROUTINE SPEC SHOULD NOT BE CALLED/39HOCHAN
00012	033000246444			
00013	447060626422			
00014	514664633145			
00015	256062472523			
00016	606230466443			
00017	246045466360			
00020	222560232143			
00021	432524610311			
00022	300023302145			
00023	272560234643			BCI ,GE COLUMN 24 OF FIRST CONTROL CARD/44HOOR REMOVE DUMMY SUBRO

BINARY CARD NO. DSPEC002

00024	644445600204			
00025	604626602631			
00026	516263602346			
00027	456351464360			
00030	232151246104			
00031	043000465160			
00032	512544466525			
00033	602464444470			
00034	606264225146			
00035	646331452560			BCI 4,UTINE FROM BINARY DECK)
00036	265146446022			
00037	314521517060			
00040	242523423460			

END

LITERALS

00041 000006000000

00002 ENTRY CORRCT

TRANSFER VECTOR

BINARY CARD NO. DCRRCT01

00000 746263303460 (STH)
 00001 742631433460 (FIL)

00002	0634 00 4 00007	CORRCT	SXA	RET,4
00003	-0500 00 0 00017		CAL	=06000000
00004	0074 00 4 00000		TSX	\$(STH),4
00005	0 00001 0 00011		PZE	F1,,1
00006	0074 00 4 00001		TSX	\$(FIL),4
00007	0774 00 4 00000	RET	AXT	**,4
00010	0020 00 4 00001		TRA	1,4
00011	740130006102	F1	BCI	6,(1H0/24H0DUMMY SUBROUTINE CORRCT)
00012	043000246444			
00013	447060626422			
00014	514664633145			
00015	256023465151			
00016	236334606060			

END

LITERALS

00017 00006000000

00002 ENTRY MXTEST

TRANSFER VECTOR

BINARY CARD NO. DMXTST01

00000 746263303460 (STH)
00001 742631433460 (FIL)

00002 C634 OC 4 00007 MXTEST SXA RET,4
00003 -C500 OC C 00042 CAL =06000000
00004 C074 OC 4 00000 TSX \$(STH),4
00005 C 00001 0 00011 PZE F1,,1
00006 C074 OC 4 00001 TSX \$(FIL),4
00007 C774 OC 4 00000 RET AXT **,4
00010 C020 OC 4 00001 TRA 1,4
00011 740130006104 F1 BCI ,(1HO/45HODUMMY SUBROUTINE MXTEST SHOULD NOT BE CALLED/39HOCH
00012 C530CC246444
00013 447060626422
00014 514664633145
00015 256044676325
00016 626360623046
00017 644324604546
00020 636022256023
00021 214343252461
00022 C31130CC2330
00023 214527256023 BCI ,ANGE COLUMN 21 OF FIRST CONTROL CARD/44HOOR REMOVE DUMMY SUB

BINARY CARD NO. DMXTST02

00024 464364444560
00025 C2C160462660
00026 263151626360
00027 234645635146
00030 436023215124
00031 6104C4300046
00032 516051254446
00033 652560246444
00034 447060626422
00035 514664633145 BCI 5,(ROUTINE FROM BINARY DECK)
00036 256026514644
00037 602231452151
00040 706024252342
00041 346060606060

END

LITERALS

00042 C00006C00000

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