

МИНОБРНАУКИ РОССИИ

ГОУ ВПО «УРАЛЬСКИЙ ГОСУДАРСТВЕННЫЙ ЛЕСОТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ»

Кафедра иностранных языков

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АВТОМАТИЗАЦИЯ ТЕХНОЛОГИЧЕСКИХ ПРОЦЕССОВ И ПРОИЗВОДСТВ

Методические указания
по английскому языку
для студентов 2 курса
лесоинженерного факультета
очной и заочной форм обучения
специальности 220301

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ВВЕДЕНИЕ

Данные методические указания предназначены студентам второго курса лесоинженерного факультета специализации «Автоматизация технологических процессов и производств» и имеют профессионально-ориентированную направленность. Они составлены согласно карте специальности факультета и состоят из 13 разделов.

Каждый раздел имеет рубрики:

- подготовка к коммуникации;
- фонетические упражнения;
- текст для изучающего или поискового чтения;
- лексические и грамматические упражнения к тексту;
- информационные упражнения к тексту (questions for group discussion);
- материалы для развития компетенций в говорении и письменной речи.

Такая структура методических указаний полностью соответствует требованиям, предъявляемым к интернет-тестированию по окончании изучения базового курса английского языка. Методические указания снабжены англо-русским словарем.

Text 1. What is a computer?

Before you read.

1. Discuss with your partner.

- What does the term "computer" mean?
- When did you get acquainted with a computer?
- Does computer play an important role in your life?

2. Mind the pronunciation of the following words, translate them into Russian.

computer	internet
diskette	software
processor	hardware
scanner	information
printer	data
modem	microphone
respond	refine

3. Read the text. Find the sentences with the words from the pronunciation guide, translate them.

What is a computer?

The term "computer" is used to describe a device made up of a combination of electronic and electromechanical (part electronic and part mechanical) components. Computer has no intelligence by itself and is referred to as hardware. A computer system is a combination of five elements:

- Hardware
- Software
- People
- Procedures
- Data/information

When one computer system is set up to communicate with another computer system, connectivity becomes the sixth system element. In other words the manner in which the various individual systems are connected - for example, by phone lines, microwave transmission, or satellite - is an element of the total computer system.

Software is the term used to describe the instructions that tell the hardware how to perform a task. Without software instructions, the hardware doesn't know what to do. People, however, are the most important component of the computer system: they create the computer software instructions and respond to the procedures that those instructions present.

The basic job of the computer is the processing of information. Computers accept information in the form of instruction called a program and characters called data to perform mathematical and logical operations, and then give the results. The data is raw material while information is organized, processed, refined and useful for decision making. Computer is used to convert data into information. Computer is also used to store information in the digital form.

4. General understanding.

1. What does the term «computer» describe?
2. Has computer intelligence by itself?
3. What are five components of a computer system?
4. What is connectivity?
5. What is software? What's the difference between hardware and software?
6. Why people are the most important component of a computer system?
7. In what way are terms «data» and «information» differ?
8. How does computer convert data into information?

5. Which of the listed below terms have Russian equivalents?

Computer, diskette, metal, processor, scanner, information, data, microphones, printer, modem, internet, software, hardware, respond, refine, store, create.

6. Mind the difference between process and treat; data and information.

7. Which of the listed below statements are true/false? Specify your answer using the text.

1. Computer is made of electronic components so it is referred to as an electronic device.
2. Computer has no intelligence until software is loaded.
3. There are five elements of computer system: hardware, software, people, diskettes and data.
4. The manner in which computers are connected is the connectivity.
5. Without software instructions hardware doesn't know what to do.
6. The software is the most important component because it is made by people.
7. The user inputs data into computer to get information as an output.
8. Computer is used to help people in decision-making process.

8. Insert the words given in the box.

1. ...doesn't come to life until it is connected to other parts of a system.
2. ...is the term used to describe the instructions that tell the hardware how to perform a task.
3. ...create the computer software instructions and respond to the procedures that those instructions present.
4. Information in the form of instruction is called a...
5. The manner in which the various individual systems are connected is...
6. ...is organized, processed and useful for decision making.
7. The basic job of the computer is...

- | |
|--|
| <ol style="list-style-type: none">a. programb. informationc. processing of informationd. softwaree. connectivityf. computerg. people |
|--|

9. Match the following to make phrases.

1. Computer is used to describe...
2. Software is the term used...
3. A computer system is...
4. The most important component of the computer system are...
 - a. ...a combination of five elements.
 - b. ...a device made up of the combination of electronic and electromechanical components.
 - c. ...to describe the instructions that tell the hardware how to perform a task.
 - d. ...people.

10. Questions for group discussion.

1. Why so many people are still «computer illiterate»?
2. What are the most important applications of computers? (Are computer games just a "waste of time"? Is it a nice hobby and a lot of fun?)
3. Who has a computer in your group? Ask them what do they use it for?

11. Grammar: Complex Object. Mind Complex Object with Active or Passive Infinitive. Open the brackets using the verb in the correct Voice Form. Translate the sentences.

1. I should like you (to settle/to be settled) matter today.
I should like the matter (to settle/to be settled) today.
2. They expected the firm (to sell/to be sold) the goods. They expected the goods"(to sell/to be sold).
3. The firm wanted us (to settle/to be settled) an order with them. The firm wanted the order (to settle/to be settled) with them.
4. We expect them (to clear up/to be cleared up) the matter right away. We expect the matter (to clear up/to be cleared up) right away.

12. Form the verbs from the following nouns:

Connectivity, information, instruction, transmission.

13. Find sentences with the Infinitive in the text, define the functions of the Infinitive.

14. Writing. Business letters: Layout of the envelope. Mind the layout of the envelope and order the parts of the formal letter correctly.

Sender's address	stamp(s)
Postal remarks (via air mail)	Recipient's address

Via air mail
Wayne state University
Bank for Foreign Economic
Affairs of Russia Tvers-
kaya, 13 - 26 Detroit,
Michigan 48202 Law
school
USA
Moscow, Russia

Text 2. Hardware

Before you read

1. Discuss with your partner.

- What is the difference between hardware and software?
- Are there users in your group?

2. Mind the pronunciation of the following words, translate them into Russian.

capacity	connect
circuitry	interpret
modem	volatile
sophisticated	retreat
temporarily	purpose
affect	sensitive

3. Read the text. Translate the headings into Russian.

Hardware

What is hardware? Webster's dictionary gives us the following definition of the hardware - **the mechanical, magnetic, electronic, and electrical device composing a computer system.**

Computer hardware can be divided into four categories:

- 1. input hardware**
- 2. processing hardware**
- 3. storage hardware**
- 4. output hardware, input hardware**

The purpose of the **input hardware** is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. It looks very much like a typewriter. The mouse is a hand held device connected to the computer by a small cable. As the mouse is rolled across the mouse pad, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

The light pen uses a light sensitive photoelectric cell to signal screen position to the computer. Another type of input hardware is an optic-electronic scanner that is used to input graphics as well as typeset characters. Microphone and video camera can be also used to input data into the computer. Electronic cameras are becoming very popular among the consumers for their relatively low price and convenience.

Processing hardware

The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer. The most common components of processing hardware are the Central Processing Unit and Main memory.

The Central Processing Unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated task in a very short time.

Memory is the system of the component of the computer in which information is stored. There are two types of computer memory: RAM and ROM.

RAM (random access memory) is the volatile computer memory, used for creating, loading, and running programs and for manipulating and temporary storing

ROM (read only memory) is the nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform.

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are Hard disk, Floppy disk and CD-ROM.

Hard disk is a rigid disk, for storing programs and relatively large amounts of data.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized read-only data can be stored

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text or graphics printed on it. Softcopy output is displayed on a monitor.

Monitor is a component with a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

Modem is an example of communication hardware - an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

4. General understanding.

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware? What are the examples of input hardware?
4. What is a mouse designed for? What is a light pen?
5. What is processing hardware? What are the basic types of memory used in a PC?
6. Can a PC-user change the ROM? Who records the information in ROM?

5. Which of the listed below statements are true/false? Specify your answer using the text.

1. Computer is an electronic device, therefore hardware is a system of electronic devices.
2. The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
3. Scanner is used to input graphics only.
4. The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.
5. CPU reads and interprets software and prints the results on paper.
6. Users are unable to change the contents of ROM.
7. Printer is a processing hardware because its purpose is to show the information produced by the system.
8. Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.
9. The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed for processing.

6. Use the following word combinations in your own sentences:

input hardware, processing hardware, storage hardware, output hardware.

7. Speaking. Give definitions to the following using the text.

1. CPU
2. ROM
3. Printer
4. Modem
5. Motherboard
6. Hard disk
7. Keyboard
8. Sound-card

8. Which of the following is Hardware?

1. Program
2. Mouse
3. CPU

4. Printer
5. Modem
6. Command
7. Port
8. Cursor or the pointer
9. Keyboard
10. Character

9. Give definitions to the following (1 - 9) using (a - i).

1. Процессор
 2. Клавиатура
 3. МЫШЬ
 4. Дискета
 5. «Винчестер»
 6. Модем
 7. Экран
 8. ПЗУ
 9. ОЗУ
- a) the nonvolatile, non modifiable computer memory, used to hold programmed instructions to the system.
 - b) the part of a television or computer on which a picture is formed or information is displayed.
 - c) a rigid disk coated with magnetic material for storing computer programs and relatively large amount of data.
 - d) an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.
 - e) a set of keys, usually arranged in tiers, for operating a typewriter, typesetting machine, computer terminal, or the like.
 - f) the volatile computer memory, used for creating, loading, and running programs and for manipulating and temporarily storing data; main memory.
 - g) the central processing unit: the key component of a computer system, containing the circuitry necessary to interpret and execute program instructions.
 - h) a palm-sized device equipped with one or more buttons, used to point at and select items on a computer display screen and for controlling the cursor by means of analogous movement on a nearby surface.
 - i) a thin, usually flexible plastic disk coated with magnetic material for storing computer data and programs.

10. Match the following to make phrases.

1. The purpose of the input hardware is...
2. Hardware is...
3. The light pen uses...
4. Processing hardware purpose is ...
5. A monitor is used...

- a. ... the mechanical, magnetic, electronic, and electrical device composing a computer system.
- b. ... to collect data and convert it into a form suitable for computer processing.
- c. ... for viewing computer data, television programs etc.
- d. ... a light sensitive photoelectric cell to signal screen position to the computer.
- e. ... to retrieve, interpret and direct the execution of software instructions.

11. Questions for group discussion.

- 1. Without what parts is your computer unable to work?
- 2. What is the most expensive part of the hardware?
- 3. What other hardware devices do you know? What are they for? Do you know how to use them?

12. Grammar. Complex Subject. Mind Complex Subject with Active or Passive Infinitive, open the brackets using the verb in the correct Voice Form. Translate the sentences into Russian.

- 1. The opening of the conference (to be understood /to understand) to have been fixed for the 1st of September.
- 2. Many million tons of coal reserves (to be known /to know) to exist in that district.
- 3. He (to be believed/to believe) to know everything on this subject.
- 4. The expedition (to expect /to be expected) to start in summer.
- 5. The goods (to be reported /to report) to have been awaiting shipment for several days.
- 6. They (to say/to be said) to know Chinese very well.
- 7. Computers (to be known /to know) to be widely used in industry.

13. Writing. A BUSINESS LETTER

A business letter, as a rule, has six parts:

- 1. Heading
- 2. Inside address
- 3. Salutation
- 4. Body of the letter
- 5. Complimentary close
- 6. Signature

Sometimes there is a seventh part – the postscript.

LAYOUT OF AN OFFICIAL LETTER

M a r g i n	<p>The heading</p> <hr style="width: 50%; margin: auto;"/> <p>the data</p> <ul style="list-style-type: none"> 2. The inside address 3. The salutation 4. The body of the letter 5. The complimentary close 6. The signature 	M a r g i n
----------------------------	--	----------------------------

14. Is it an official letter or a social, informal letter?

A LETTER

Richardson, Smallet & Co. Ltd.,
4, Boswell Way, Nagstead, Kent,
N A 24 PJ

The Secretary,
Brown & Smith Ltd.,
1304 Sherman Ave.,
Madison, Wisconsin

12th May 20...

Dear Sir,

We thank you for your letter of 10th May, enclosing invitation to the official opening of the exhibition next month.

Yours faithfully

R. Hendricks Marketing Manager

15. Order the parts of the letter correctly.

- | | |
|---|--|
| 1. Yours sincerely,
R. Hendrics
Marketing manager | 2. Dear Mr. Johnson
This is to acknowledge with thanks
receipt of the latest catalogue for 2003-2004 |
| 3. Sales manager, Bround
Smith LTD, 1304 Sherman
av 1., Madison,
Wisconsin | 4. September 20,
2003. |

16. Compose official letters out of the following:

1. We thank you /letter /24 October /enclosing/copy/ new contract
2. .../agenda/next meeting/Board of Directors
3. We/pleasure/enclosing/draft proposals/calling the conference.
4. ...two invitations/official opening/exhibition/next month.
5. Я имею удовольствие сообщить Вам, что Ваш номер в отеле забронирован и мы будем встречать Вас в аэропорту.
6. Я был бы Вам чрезвычайно благодарен, если бы Вы рассмотрели мою просьбу.

Text 3: Types of software

Before you read.

1. Discuss with your partner.

- What is the difference between hardware and software?
- What do you know about software?

2. Mind the pronunciation of the following words, translate them into Russian.

system

design

specific	peripheral
perform	satisfy
standard	transfer
collection	stimulate
application	rely

3. Read the text: Pay attention to what computer requires to complete a job.

Types of software

A computer to complete a job requires more than just the actual equipment or hardware we see and touch. It requires Software - programs for directing the operation of a computer or electronic data.

Software is the final computer system component. These computer programs instruct the hardware how to conduct processing. The computer is merely a general-purpose machine which requires specific software to perform a given task. Computers can input, calculate, compare, and output data as information. Software determines the order in which these operations are performed.

Programs usually fall in one of two categories: system software and application software.

System software controls standard internal computer activities. An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the system programs is booted or loaded into the computer memory. This software contains information about memory capacity, the model of the processor, the disk drivers to be used, and so on. Once the system software is loaded, the application software can be brought in.

System programs are designed for the specific pieces of hardware. These programs are called drivers and coordinate peripheral hardware and computer activities. The user needs to install a specific driver in order to activate a peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which though, commonly goes along with your device. By installing the drivers you «teach» your main board to «understand» the newly attached part.

Application software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software. As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user. This class of programs is the most numerous and perspective from the marketing point of view.

Data communication within and between computers systems is handled by system software. Communication software transfers data from one computer system to another. These programs usually provide users with physically trans-

ferring data between the two computer memories. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software.

4. General understanding.

1. What is software?
2. Into what two basic groups could software (programs) be divided?
3. What is system software used for?
4. What is an operating system - system software or application software?
5. What is a «driver»?
6. What is application software used for?
7. What is the tendency in application software market in the recent years?
8. What is application of communication software?

5. Which of the following is Software?

1. Program
2. Mouse
3. CPU
4. Word processor
5. Modem
6. Web-browser
7. Operating system
8. Scanner
9. Printer
10. Display

6. Which of the listed below statements are true (false)? Specify your answer using the text.

1. Computer programs only instruct hardware how to handle data storage.
2. System software controls internal computer activities.
3. System software is very dependable on the type of application software being used.
4. The information about memory capacity, the model of the processor and disk drives are unavailable for system software.
5. The driver is a special device used by car drivers for Floppy-disk driving.
6. It is very reasonable to ask for a driver when you buy a new piece of hardware.
7. Software developers tend to make their products very small and with poor interface to save computer resources.
8. Communication software is in great demand now because of the new advances in communication technologies.
9. Application software is merely a general -purpose instrument.
10. Web-browser is the class of software for electronic communication through the network.

7. Find English equivalents in the text.

1. Программное обеспечение определяет порядок выполнения операций.
2. Прикладные программы выполняют поставленную вами конкретную задачу (удовлетворяют вашу потребность)
3. Этот класс программ – самый многочисленный и перспективный с точки зрения маркетинга.
4. Системные программы предназначены для конкретных устройств компьютерной системы.
5. Устанавливая драйвер, вы «учите» систему «понимать» вновь присоединенное устройство.
6. Когда компьютер впервые включается, одна из системных программ должна быть загружена в его память.
7. Развитие систем электронной коммуникации за последние пять лет стимулировало производство соответствующих программных материалов все возрастающим числом компаний-разработчиков.

8. Speaking. Give definitions to the following using the vocabulary.

1. Software
2. Driver
3. Application software
4. Operating system
5. Communication software
6. Computer
7. Peripheral device
8. Operating system

9. Form nouns from the following verbs.

Require, equip, direct, conduct, perform, inform, determine, activate.

10. Questions for group discussion.

1. What do you think is more expensive - hardware or software?
2. Has anyone in your group ever purchased software? Why do you think piracy (audio, video, computer software) still exists?

11. Grammar. Complex Subject. Mind Complex Subject with «seem, appear, happen, prove, turn out, to be sure, to be likely. Open the brackets using the verb in the correct Voice Form.

1. He (to appear) to have forgotten of his promise.
2. System software (to prove) to control internal computer activities.
3. The apparatus (to seem) to be in excellent condition.
4. Computer (to be sure) to be widely used in industry.
5. He (to be likely) to win the prize.

6. The engineers (to suppose) to have been working at this problem for the last two years.
7. The weather (to appear) to be improving.

12. Writing. Advertisements. What kind of advertisements are these? (general, banking). Translate them into Russian.

1. Best opportunity. Wanted US \$100,000 in a very safe and sound business. Guaranteed monthly profit of US \$8,000. Write to... (addressee)
2. Tenders are invited for the purchase of various types of machinery. Further details and tender conditions on application to stores controller.

**Text 4. Operating system.
Modern computer technologies**

Before you read.

1. Discuss with your partner.

- Name the functions of operating systems?
- How many operating systems do you know?

2. Mind the pronunciation of the following words, translate them into Russian.

introduce	provide
device	version
consume	enhance
manage	compatible
license	access

3. Read the text. Pay attention to the most commonly used operating systems described in the text.

Operating system

When computers were first introduced in the 1940's and 50's, every program written had to provide instructions that told the computer how to use devices such as a printer, how to store information on disks, and how to perform several other tasks not necessarily related to the program. The additional program instructions for working with hardware devices were very complex, and time-consuming. Programmers soon realized it would be smarter to develop one program that could control the computer's hardware, which other programs could have used when they needed it. Thus, the first operating system was born.

Today, operating system controls and manages the use of hardware devices such as the printer or mouse. They also provide disk management by letting you store information in files. The operating system also lets you run programs such as the basic word processor. Lastly, the operating system provides several of its own commands that helps you to use the computer.

DOS is the most commonly used PC operating system. DOS is an abbreviation for disk operating system. DOS was developed by a company named Microsoft. MS-DOS released the IBM PC in 1981, IBM licensed DOS from the users perspective, PC-DOS and MS-DOS are the same, each providing the same capabilities and commands. The version of DOS released in 1981 was 1.0. Over the past decade, DOS has undergone several changes. Each time the DOS developers release a new-version, they increase the version number.

Windows NT (new technology) is an operating system developed by Microsoft. NT is an enhanced version of the popular Microsoft Windows 3.0, 3.1 programmes. NT requires a 386 processor or greater and 8 Mb of RAM. For the best NT performance, you have to use a 486 processor with about 16 Mb or higher. Unlike the Windows, which runs on top of DOS, Windows NT is an operating system itself. However, NT is DOS compatible. The advantage of using NT over Windows is that NT makes better use of the PC's memory management capabilities.

OS/2 is a PC operating system created by IBM. Like NT, OS/2 is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse. Many IBM-based PCs are shipped with OS/2 preinstalled.

UNIX is a multi-user operating system that allows multiple users to access the system. Traditionally, UNIX was run on a larger mini computer to which users accessed the systems using terminals and not PC's. UNIX allowed each user to simultaneously run the programs they desired. Unlike NT and OS/2 UNIX is not DOS compatible. Most users would not purchase UNIX for their own use. Windows 95&98 are the most popular user - oriented operating systems with a friendly interface and multitasking capabilities.

4. General understanding.

1. What problems faced programmers in the 1940's and 1950's?
2. Why were the first programs «time-consuming»?
3. What are the basic functions of operating system?
4. What does the abbreviation DOS mean?
5. What company developed the first version of DOS operating system? For what purpose was it done? Was the new operational system successful?
5. What is the difference between the PC-DOS and MS-DOS?
6. What does the abbreviation NT stand for? Is NT DOS-compatible? What are the basic requirements for NT?
7. Who is the developer of OS/2?
8. What makes UNIX so different from the other operational systems?
9. What are special features of Windows 95, Windows 98, and Windows 2000?

5. Insert the words from the box.

UNIX
DOS
NT
OS/2
Windows 95

1. Like NT ... is DOS compatible and provides a graphical user interface that lets you run programs with a click of a mouse.
2. ...is the most commonly used PC operating system.
3. ...is a multi-user operating system that allows multiple users to access the system.
4. ...is an operating system developed by Microsoft, an enhanced version of the popular Microsoft Windows programs.
5. The usage of... is so simple that even little kids learn how to use it very quickly.

6. Which of the listed below statements are true/false? Specify your answer using the text.

1. When computers were first introduced in 40's and 50's programmers had to write programs to instruct CD-ROMs, laser printers and scanners.
2. The operational system controls and manages the use of the hardware and the memory.
3. There are no commands available in operating systems, they are only in word processors.
4. Microsoft developed MS-DOS to compete with IBM's PC-DOS.
5. NT requires computers with 486 CPU and 16 M random access memory.
6. OS/2 is DOS compatible because it was developed by Microsoft.
7. Traditionally, UNIX was run by many users simultaneously.
8. Windows 95 and Windows 98 are DOS compatible and have «friendly» and convenient interface.

7. Find English equivalents in the text.

1. Современная операционная система контролирует использование системного оборудования, например принтера и мыши.
2. С точки зрения пользователя операционные системы PC-DOS и MS-DOS идентичны, с равными возможностями и набором системных команд.
3. OS/2 является DOS-совместимой операционной системой, позволяющей запускать программы при помощи графического интерфейса пользователя.
4. Дополнительные программы для работы с устройствами системного оборудования были очень сложны и поглощали много времени.
5. Операционная система также позволяет запускать программы, такие как простейший текстовый редактор.
6. DOS – наиболее распространенная операционная система для персонального компьютера.

8. Match the following to make phrases.

1. The computers had to provide the instructions that...
2. The additional program instructions...
3. The operating system...
4. Windows NT is...
5. UNIX is...

- a. ... were very complex and time - consuming.
- b. ... a multi - user operating system.
- c. ... told the computer how to use a printer, to store information on disks...
- d. ... an operating system^ developed by Microsoft.
- e. ... lets you run programs such as the basic word processor.

9. Mind the difference between ship, deliver, supply.

10. Questions for group discussion.

1. Why do you think Bill Gates, President of Microsoft Company is one of the richest people on the Earth?
2. Judging from your experience tell if UNIX is used nowadays? What about OS/2?
3. Ask the students in your group who has experience working with Windows 95 and Windows 98 about the advantages and disadvantages of these operational systems.

11. Speaking. Describe one of the most widely used operating system.

12. Grammar. Participle I, II.

Open the brackets using the correct form of the Participle.

1.
 - a) The model of compressor (to advertise) by this firm is quite new.
 - b) The office of the firm (to advertise) this model is in Liverpool.
2.
 - a) The equipment (to export) from Germany is usually of high quality.
 - b) What is the name of the office (to export) this equipment.
3.
 - a) The goods (to supply) under contract are of inferior quality.
 - b) The firm (to supply) this equipment is a very reliable one.
4.
 - a) A word (to speak) in time may have important results.
 - b) The students (to speak) good English must participate in the conference.
5.
 - a) A person (to bring) good news is always welcome.
 - b) The news (to bring) by him was terrible.
6.
 - a) Outstanding scientists (to discuss) this important problem now.
 - b) This important problem (to discuss) by scientists.

13. Form adverbs from the following words.

Simultaneous, smart, additional, usual, rare.

14. Writing. Advertisements. What kind of advertisements are these (banking advertisements or advertisements about auction?) Give your own advertisements.

- 1 Land Rover MDS.1991 - model will be sold in public auction on the ...
(date)
2. The following articles will be sold in public auction at 3 p.m. at the district Culture Centre:
 - a) projectors Philips 35 mm, portable with amplifier. Old equipment.
 - b) public Address System Old equipment.
3. Wanted a financier to invest US \$ 1.000.000 in a reputed and highly successful private limited manufacturing Co on profit sharing bases No risks apply to...

Text 5. Net origin

Before you read.

1. Discuss with your partner.

- What part did students play in Internet development?
- Why is it necessary to link computers?

2. Mind the pronunciation of the following words, translate them into Russian.

switch	persistance
packet	message
promise	assembly
effort	branch
offer	destination

3. Read the text. Mind the stages of Internet development.

Net origin

In the 1960's researchers began experimenting with linking computers. They wanted to see if computers in different locations could be linked using a new technology known as packet switching. This technology, in which data meant for another location is broken up into little pieces, each with its own "forwarding address" had the promise of letting several users share just one communications line. Their goal was not the creation of today's international computer-using community, but the development of a data network that could survive a nuclear attack.

Previous computer networking efforts had required a line between each computer on the network, sort of like a one-track train route. The packet system allowed to create data highway. Each packet was given the computer equivalent

of a map and a time stamp, so that it could be sent to the right destination, where it would then be reassembled into a message the computer or a human could use. This system allowed computers to share data and researches to exchange electronic mail, or e-mail. In itself, e-mail was something of revolution, offering the ability to send detailed letters at the speed of a phone call.

As the system grew, some college students developed a way to use it to conduct online conferences. These started as science-oriented discussions, but they soon branched out into virtually every other field, as people recognized the power of being able to "talk" to hundreds, or even thousands of people around the country.

In the 1980s, this network of networks, which became known as the Internet, expanded at a phenomenal rate. Hundreds, then thousands of colleges, research companies and government agencies began to connect their computers to this Worldwide Net. Some companies unwilling to pay high costs of the Internet access (or unable to meet strict government regulations for access) learned how to link their own systems to Internet, even if "only" for e-mail and conferences. Some of these systems began offering access to the public. Now anybody with a computer and modem, persistence and a small amount of money could tap into the world.

4. General understanding.

1. When did researchers begin experimenting with linking computers?
2. What did they want to see?
3. What was their goal?
4. What did packet system allow to create?
5. What way did some college students develop to use this system?
6. Who helped to link these systems to Internet?

5. Which of the listed below statements are true/false? Specify your answer using the text.

1. In the 1940's researchers began experimenting with linking computers.
2. They wanted to see if computers in different locations could be linked using a new technology known as packet switching.
3. Their aim was creating of today's international computer-using community.
4. The packet system did not allow to create data highway.
5. This system allowed computers to share data and researches.
6. This network of networks expanded at a phenomenal rate.
7. Some companies learned how to link their own system to Internet.

6. Insert the words given in the box.

researchers	into the world	networking	goal
a phenomenal rate	data and researches	to conduct	

1. ... began experimenting with linking computers.
2. Their ... was the development of a data network that could survive a nuclear attack.
3. ... efforts had required a line between each computer on the network.
4. This system allowed computers to share ... to exchange electronic mail or e-mail.
5. Some college students developed a way to use it... online conferences.
6. This network of networks expanded at...
7. Now anybody with a computer and modem could tap...

7. Match the following to make phrases.

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. They wanted to see ... 2. Their goal was ... 3. Some college students developed a way to use it... 4. This network of networks ... 5. Anybody with a computer and modem ... | <ol style="list-style-type: none"> a. ... the development of a data network that could survive a nuclear attack. b. ... if computers could be linked using a new technology. c. ... to conduct online conferences. d. ... could tap into the world. e. ... expanded at a phenomenal rate. |
|--|--|

8. Questions for group discussion.

1. What for did researchers begin experimenting with linking computers?
2. Does Internet play an important role in your life and why?
3. What for do you rate highly the Internet?

9. Speaking. Speak on the Net Origin.

10. Grammar. Absolute participle construction.

Find sentences with Absolute Participle constructions.

1. Students should always be attentive when they are listening to the teacher.
2. The treaty having been signed, trade was at once resumed.
3. The electrons move with varying velocities, their velocity depending on the temperature and nature of the material.
4. Any moving object can do work, the quality of the kinetic energy depending on its mass and velocity.
5. Radio was invented in Russia, its inventor being the Russian scientist A.S. Popov.
6. The professor being ill, the lecture was put off.
7. The goods having been unloaded, the workers left the port.

11. Form as many parts of speech as you can from the following words.

Research, promise, offer, branch, link, switch, commonly.

12. Writing. What kind of advertisements are these?

1. Good opportunity for banks to invest money. Apply to... (address)
2. Greetings and best wishes for a Happy New Year. We serve all your insurance needs.

Insurance company.

13. Make up your own advertisements (banking or general).

Text 6. Introduction to the WWW and the Internet

Before you read.

1. Discuss with your partner.

- Is the Internet a necessity nowadays?
- Why do so many people use internet today?

2. Mind the pronunciation of the following words, translate them into Russian.

WWW	browser
retrieve	provide
network	humanities
hyperlink	branch
offer	destination

3. Read the text. Find examples illustrating the importance of the WWW.

Introduction of the WWW and the Internet

Millions of people around the world use the Internet to search for and retrieve information on all sorts of topics in a wide variety of areas including the arts, business, government, humanities, news, politics and recreation. People communicate through electronic mail (e-mail), discussion groups, chat channels and other means of informational exchange. They share information and make commercial and business transactions. All this activity is possible because tens of thousands of networks are connected to the Internet and exchange information in the same basic ways.

The World Wide Web (WWW) is a part of the Internet. But it's not a collection of networks. Rather, it is information that is connected or linked together like a web. You access this information through one interface or tool called a *Web browser*. The number of resources and services that are part of the World Wide Web is growing extremely fast. There are numerous users of the WWW, and more than half of the information that is transferred across the Internet is accessed through the WWW. By using a computer terminal (hardware) connected to a network that is a part of the Internet, and by using a program (software) to browse or retrieve information that is a part of the World Wide Web, the people connected to the Internet and World Wide Web through the local *providers* have access to a variety of information. All sorts of things are available on the WWW. One can use Internet for recreational purposes. Many TV and radio stations broadcast

live on the WWW. Essentially, if something can be put into digital format and stored in a computer, then it's available on the WWW. You can even visit museums, gardens, cities throughout the world, learn foreign languages and meet new friends. And, of course, you can play computer games through the WWW, competing with partners from other countries and continents.

Just a little bit of exploring the World Wide Web will show you what a lot of use and fun it is.

4. General understanding.

1. What is the Internet used for?
2. Why so many activities such as e-mail and business transactions are possible through the Internet?
3. What is World Wide Web?
4. What is Web browser?
5. What does a user need to have an access to the WWW?
6. What are hyperlinks?
7. What resources are available on the WWW?
8. What are the basic recreational applications of the WWW?

5. Which of the listed below statements are true/false? Specify your answer using the text.

1. There are still not so many users of the Internet.
2. There is information on all sorts of topics on the Internet, including education and weather forecasts.
3. People can communicate through e-mail and chat programs only.
4. Internet is tens of thousands of networks which exchange the information in the same basic way.
5. You can access information available on the World Wide Web through the Web browser.
6. You need a computer (hardware) and a special program (software) to be a WWW user.
7. You move from site to site by clicking on a portion of text only.
8. Every time the user wants to move somewhere on the web he/she needs to step by step enter links and addresses.
9. Films and pictures are not available on the Internet.
10. Radio and TV-broadcasting is a future of Internet. They're not available yet.

6. Find the equivalents in the text.

1. Объем ресурсов и услуг, которые являются частью WWW, растет чрезвычайно быстро.
2. Каждая ссылка, выбранная Вами, представляет документ, графическое изображение, видеоклип или аудио файл где-то в Интернете.
3. Интернет может быть также использован для целей развлечения.

4. Вы получаете доступ к ресурсам Интернет через интерфейс или инструмент, который называется веб-браузер.
5. Вся эта деятельность возможна благодаря десяткам тысяч компьютерных сетей, подключенных к Интернету и обменивающимся информацией в одном режиме.
6. Пользователи общаются через электронную почту, дискуссионные группы, чат-каналы (многоканальный разговор в реальном времени) и другие средства информационного обмена.

7. Insert the words given in the box.

provider	Internet	WWW
Web browser	transactions	browser

1. You access the information through one interface or tool called a ...
2. People connected to the WWW through the local ... have access to a variety of information.
3. The WWW is a part of the ...
4. In 1996 there were more than 20 million users of the ...
5. Each ... provides a graphical interface.
6. People share information and make commercial and business ...

8. Speaking. Define the following.

1. Internet
2. World Wide Web
3. Web browser
4. Internet provider

9. Questions for group discussion.

1. Some people think that Internet is very harmful, especially for young people, because it carries a lot of information about sex, drugs, violence and terrorism. Do you think that some kind of censorship is necessary on the WWW?
2. World famous authors and publishers say that the Internet violates their copyright because Web-programmers put all kinds of books, pictures, music, films and programs free on the Internet and this reduces their sales and profits. Is it really so?
3. Has anyone in your group experience working on the Internet? Ask them about a) the difficulties they had; b) useful information retrieved; c) fun they got? Why so few people have experience working on the Internet?

10. Writing. Publicity. Which of these examples is a publicity. And what kind of invitation are the rest three (acceptance, refusal, invitation).

1. Mercedes trucks speak a language which is universally understood in 170 countries all over the world - quality.

2. Mrs. and Mr. Gardner request the pleasure of Mrs. and Mr. Grant's company at dinner on Friday at 6 p.m.

12. South Kensington, June 2, 2008

3. Mrs. And Mr. Grant have much pleasure in accepting Mrs. and Mr. Gardner's kind invitation to dinner on Friday, at 6 p.m.

20. Brompton Road, June 3, 2008

4. Mrs. and Mr. Grant regret that a prior engagement prevents their having the pleasure of accepting Mrs. and Mr. Gardner's kind invitation.

11. Grammar. Gerund. Make up as many phrases as you can using gerundial constructions.

1. To be interested in	to draw up a contract
To object to	to compare Russian texts with their translation
	to make a firm offer
	to obtain the license before the end of the year
2. To go on	to handle this wonderful machine
To stop	to attend lectures of this famous professor
	to miss one's friends
To prefer	to negotiate the terms of the contract

12. Define the functions of the Gerund. Translate the sentences.

1. The professor insisted on the students' rereading the article again.
2. In describing the experimental data he used some diagrams.
3. There are different ways of solving these complex problems.
4. These methods were tried without checking the results obtained earlier.
5. Ivanov's reading technical journals regularly is very important for his research.
6. Showing the technical difficulties of this scheme was the object of his report.
7. His great wish was taking part in the conference.

Text 7. History of robotics

Before you read.

1. Discuss with your partner.

- What do you know about robots?
- Is the application of robots expanding nowadays?

2. Mind the pronunciation of the following words, translate them into Russian.

concept

control

robot	modem
myth	experimental
mechanical	television
figure	visual
automation	camera
electromechanical	microprocessor
actual	

3. Read the text. Mind the origination of robotics.

History of robotics

The concept of robots dates back to ancient times, when some myths told of mechanical beings brought to life. Such automata also appeared in the clockwork figures of medieval churches, and in the 18th century some clockmakers gained fame for the clever mechanical figures that they constructed. Today the term automaton is usually applied to these handcrafted, mechanical (rather than electromechanical) devices that imitate the motions of living creatures. Some of the «robots» used in advertising and entertainment are actually automata, even with the addition of remote radio control.

The term **robot** itself is derived from the Czech word "robota", meaning «compulsory labour». It was first used by the Czech novelist, and playwrighter Karel Chapek, to describe a mechanical device that looks like a human but, lacking human sensibility, can perform only automatic, mechanical operations. Robots as they are known today do not only imitate human or other living forms. True robots did not become possible, however, until the invention of the computer in the 1940s and the miniaturization of computer parts. One of the first true robots was an experimental model designed by researchers at the Stanford Research Institute in the late 1960s. It was capable of arranging blocks into stacks through the use of a television camera as a visual sensor, processing this information in a small computer.

Computers today are equipped with microprocessors that can handle the data being fed to them by various sensors of the surrounding environment. The commercial use of robots is spreading with the increasing automation of factories and they have become essential to many laboratory procedures. Nowadays robots continue to expand their application.

4. General understanding.

1. What times does the concept of robots date back to?
2. What does the term automation apply to?
3. Where is the term robot derived from?
4. What was the first robot?
5. When was it designed?
6. What are robots used for?

5. Which of the listed below terms have Russian equivalents?

Concept, robot, myth, mechanical, figure, automation, electromechanical, actual, control, model, experimental, television, visual, camera, microprocessor, ancient, arrive.

6. Which of the listed below statements are true/false? Specify your answer using the text.

1. The concept of robots dates back to ancient times.
2. Today the term automation is applied to the handcrafted, mechanical devices that imitate the motions of living creatures.
3. The term "robot" itself is derived from the Greek word "robot".
4. Robots can perform only automatic mechanical operations.
5. Robots imitate only human or other living forms.
6. The commercial use of robots is spreading.
7. Nowadays robots continue to expand their application.

7. Fill in the gaps with the words from the box.

ancient times	human	is spreading
robot	automation	«robota» microprocessors

1. The concept of robots dates back to ...
2. Today the term ... is applied to the handcrafted mechanical devices
3. The term "robot" is derived from ...
4. ... can perform only automatic, mechanical operations.
5. Robot imitate only ... and other living forms.
6. The commercial use of robots ...
7. Computers today are equipped with...

8. Match the following to make phrases.

- | | |
|---|---|
| 1. Today the term automation is applied to... | a ...do not only imitate human or other living forms. |
| 2. The term robot itself is derived from... | b ...the handcrafted, mechanical devices that imitate the motions a living creatures. |
| 3. Robots as they are known today... | c the Czech word "robota" . |
| 4. The commercial use of robots... | d ...continue to expand their application. |
| 5. Nowadays robots... | e ...is spreading with the increasing automation. |

9. Questions for group discussion.

1. What are robots and what are they used for?
2. Whom were the first robots designed by?
3. Are robots widely used nowadays?

10. Speaking. Describe a robot.

11. Grammar. Conditional sentences. Open the brackets using the verb in the correct Tense Form. Define the type of the conditional sentence.

1. If you spoke English every day, you (to improve) your language skill.
2. If he (not to pass) this examination, he will not get a scholarship.
3. If you give me your dictionary, I (to translate) this text.
4. If he did not live in St. Petersburg, we (not to meet) so often.
5. If I (to have) more pocket money, I could buy some new English books.
6. If her alarm clock (to ring), she would have been on time for work this morning.
7. If you hadn't been so careless, he (not to fall) into this trap.
8. If she (not to be) very ill, she would not have been absent from English class all last week.

12. Writing.

Is it Curriculum Vitae (CV) or Memo? Match the headings with the sections.

Interests

Work experience

Key skills

Personal profile

References

Personal Detail

Education

1)

Name Robert Brown

Address 4 Ash Grove Road, Anytown, Qt2 7 IR

Tel: 0666364582

Email: robertb@mktg.ssu.co.uk Nationality British Date of birth 12/10/86

Marital status Single

2)

I am reliable, well organized, and used to working on my own initiative.

I am comfortable working on my own or as part of a team.

3)

Familiar with Microsoft Word and Excel Clean driving license Good problem- solver

Self- motivated Fluent in German

4)

2009- Present Marketing Assistant, Success Solutions Unlimited, Manchester

Duties include planning and implementing all advertising

and promotion, responding to enquiries, monitoring student

performance

2008-2009 Teacher of English, Churchill School of English,
Munich,
Germany

5)

2004- 2007 London University: BA in English Literature and
Language

1997- 2004 Minister College Secondary School, Wells

8 GCSEs, 3 A levels: English (A), German (B), Art (C)

6)

Football, sailing, reading, landscape painting

7)

Available on request

Text 8. What is automation

Before you read.

1. Discuss with your partner.

- Was automation possible without computers?
- Is automation widely used in all industrial processes?

2. Mind the pronunciation of the following words, translate them into Russian.

manufacture	feedback
sequence	simplification
device	previous
resemble	independent
integrate	familiar

3. Read the text. Mind the steps automated manufacturing had in its development.

What is automation

Automation is the system of manufacture performing of certain tasks, previously done by people, by machines only. The sequences of operations are controlled automatically. The most familiar example of a highly automated system is an assembly plant for automobiles or other complex products.

The term automation is also used to describe nonmanufacturing systems in which automatic devices can operate independently of human control. Such devices as automatic pilots, automatic telephone equipment and automated control system are used to perform various operations much faster and better than could be done by people.

Automated manufacturing had several steps in its development. Mechanization was the first step necessary in the development of automation. The simplification of work made it possible to design and build machines that resembled the motions of the worker. These specialized machines were motorized and they had better production efficiency.

In the 1920s the automobile industry for the first time used an integrated system of production. This method of production was adopted by most car manufacturers and became known as Detroit automation.

The feedback principle is used in all automatic-control mechanisms when machines have ability to correct themselves. The feedback principle has been used for centuries. An outstanding early example is the fly ball governor, invented in 1788 by James Watt to control the speed of a steam engine. The common household thermostat is another example of a feedback device.

Using feedback devices machine can start, stop, speed up, slow down, count, inspect, test, compare, and measure. These operations are commonly applied to a wide variety of production operations.

Computers have greatly facilitated the use of feedback in manufacturing processes. Computers gave rise to the development of numerically controlled machines.

More recently, the introduction of microprocessors and computers have made possible the development of computer-aided design and computer aided manufacture (CAD and CAM) technologies. When using these systems a designer draws a part and indicates its dimensions with the help of a mouse, light pen, or other input device. After the drawing has been completed the computer automatically gives the instructions that direct a machining centre to machine the part.

4. General understanding.

1. What does the term "automation" mean?
2. How is the sequence of operations controlled?
3. What was the first step necessary in the development of automation?
4. How did simplification affect designing and building machines that resembled the motions of the worker?
6. Where was an integrated system used for the first time?
7. Give some examples of feedback devices?

5. Which of the listed below terms have Russian equivalents.

Manufacture, perform, control, automatically, familiar, system, product, equipment, design, motorized, efficiency, development.

6. Which of the listed below statements are true/false? Specify your answer using the text.

1. Automation is the system of manufacture performing of certain tasks, previously done by people, by machines only.
2. The term automation is also used to describe nonmanufactunng systems in which automatic devices can operate independently of human control.
3. Automation was the first step necessary...
4. Motorized machines had worse production efficiency.
5. The feedback principle has never been used.

6. Computers have greatly facilitated the use of feedback in manufacturing processes.

7. Match the following to make phrases.

- | | |
|--|--|
| 1. Automation is the system... | a. ...an assembly plant for automobiles. |
| 2. The sequence of operations... | b. ...of manufacture performing of certain tasks. |
| 3. The most familiar example of a highly automated system is ... | c. ...are controlled automatically. |
| 4. Mechanization was the first step... | d. ...the use of feedback in manufacturing process |
| 5. The feedback principle is used... | e. ...start, stop, speed up, slow down, count... |
| 6. Using feedback devices machines can... | f. ...in all automatic-control mechanisms. |
| 7. Computers have greatly facilitated... | g. ...in the development of automation. |

8. Make up as many sentences, as you can.

The main advantages of automation are...

- a. ...replacing human operators in hard physical or monotonous work.
- b. ...performing tasks that are beyond human capabilities of size, weight, speed...
- c. ...economy improvement.
- d. ...high initial cost.

9. Speaking. Describe the process of automation.

10. Questions for group discussion.

1. The most well known examples of highly automated systems.
2. What principle is used in all automatic - control mechanisms?
3. Why computers have facilitated the use of feedback in manufacturing process?

11. Grammar. Asyndetical conditional sentences. Make up your own asyndetical conditional sentences out of the following. Mind the word order in them.

Example:

- 1) **If I had time, I should do this work. - Had I time, I should do this work.**
- 2) If he were here, he would help us.
- 3) If he could come tonight, we should be very glad.
- 4) If I had seen him, I should have asked him about it.
- 5) If he had known it, he would not have gone there.

12. Grammar. Articles. Insert the articles where it is necessary.

- 1) ...Earth is millions of kilometers from the sun.
- 2) ...lake Baikal is the deepest of all ... lakes in the world.
- 3) He teaches ... English to ... students of our university.
- 4) ...pine grows in ... northern countries.
- 5) Trade between ... Russia and ... Germany is steadily growing.
- 6) ... water is necessary for life.
- 7) May I ask you a question ... professor?
- 8) I'll ask ... father about it.
- 9) ...Minsk is ... capital of... Belorussia.

13. Insert much, many, few, little, a few, a little.

- 1) He had ... English books at home.
- 2) After the lessons everybody felt ... tired.
- 3) My sister knows English ... and she can help me with the translation of the text.
- 4) Have you got ... time before the lesson?
- 5) ...of there students don't like to look up words in the dictionary.
- 6) ...Students are in the classroom.

Text 9. Automation and its application

Before you read.

1. Discuss with your partner:

- Is automation a top problem nowadays?
- Which is more important: automation or mechanization?

2. Mind pronunciation of the following words, translate them into Russian.

numerical control	employment
subjective	intervention
experience	assessment
widespread	impact
scent	ubiquitous

3. Read the text. Mind the impact of automation on social issues.

Automation and its application

Automation is the use of control systems (such as numerical control, programmable logic control, and other industrial control systems), together with other applications of information technology (such as computer-aided technologies [CAD, CAM, CAX]), to control industrial machinery and processes, reducing the need for human intervention. In the scope of industrialization, automation is a step beyond mechanization. Whereas mechanization provided human operators with machinery to assist them with the muscular requirements of

work, automation greatly reduces the need for human sensory and mental requirements as well. Processes and systems can also be automated.

Automation plays an increasingly important role in the world economy and in daily experience. Engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities.

Many roles for humans in industrial processes presently lie beyond the scope of automation. Tasks requiring subjective assessment or synthesis of complex sensory data, such as scents and sounds, as well as high-level tasks such as strategic planning, currently require human expertise. In many cases, the use of humans is more cost-effective than mechanical approaches even where automation of industrial tasks is possible.

Automation has had a notable impact in a wide range of highly visible industries beyond manufacturing. Once-ubiquitous telephone operators have been replaced largely by automated telephone switchboards and answering machines. Medical processes such as primary screening in electrocardiography or radiography and laboratory analysis of human genes, sera, cells, and tissues are carried out at much greater speed and accuracy by automated systems. Automated teller machines have reduced the need for bank visits to obtain cash and carry out transaction. In general, automation has been responsible for the shift in the world economy from agrarian to industrial in the 19th century and from industrial to services in the 20th century.

The widespread impact of industrial automation raises social issues, among them its impact on employment. Historical concerns about the effects of automation date back to the beginning of the industrial revolution, when a social movement of English textile machine operators in the early 1800s known as the Luddites protested against Jacquard's automated weaving looms - often by destroying such textile machines - that they felt threatened by losing their jobs. When automation was first introduced, it caused widespread fear. It was thought that the displacement of human operators by computerized systems would lead to severe unemployment.

4. General understanding.

1. What is the difference between mechanization and automation?
2. Does automation play an increasingly important role in the world economy and experience?
3. Name the roles for humans in industrial processes that lie beyond the scope of automation?
4. Has automation been responsible for the shift in the world economy from agrarian to industrial?
5. What is the cause of the industrial revolution in England in the early 1800s ?

5. Which of the listed below terms have Russian equivalents?

Automation, control, system, programmable, logic, industrial, information, complex system, mechanization, application, human, analysis, speed, ubiquitous

6. Which of the listed below statements are true or false? Specify your answer using the text.

1. In the scope of industrialization, automation is a step beyond mechanization.
2. Automation greatly reduces the need for human sensory and mental requirements.
3. Automation has had a notable impact in a wide range of visible industries beyond manufacturing.
4. The widespread impact of industrial automation does not rise social issues, among them its impact on employment.
5. When automation was first introduced, it caused widespread joy.
6. Flexibility of distributed process has led to the introduction of automated guided vehicles.

7. Match the following to make phrases.

1. Automation is the use ...
2. In a wide range of highly visible industries beyond manufacturing ...
3. Many roles for humans in industrial process lie beyond ...
4. Automation has had a notable impact...
5. In general, automation has been responsible for ...
6. The widespread impact of industrial automation raises ...
 - a. ... automation is a step beyond mechanization.
 - b. ... social issues, among them its impact on employment.
 - c. ... of control system to control industrial machinery and processes to reduce the need for human intervention.
 - d. ... the shift in the world economy from agrarian to industrial in the 19 century and...
 - e. ... the scope of automation
 - f. ... in the scope of industrialization

8. Fill in the gaps with the words from the box.

the scope humans automation cash are carried out
--

1. In ...of industrialization, automation is a step beyond mechanization.
2. ...plays an important role in the world economy.
3. In many cases the use of... is more cost-effective.
4. Automated teller machines reduced the need for bank visits to obtain ...
5. Some medical processes ... by automated systems.

9. Mind the difference between Affect - influence - impact

10. Speaking. Describe the role automation plays in medical processes.

11. Questions for group discussion.

1. What is automation?
2. What is the difference between automation and mechanization?
3. How does automation affect economy?

12. Grammar. Subjunctive Mood. Use the Subjunctive Mood with "I wish"

(в прид. дополнительных для выражения сожаления, неосуществленных желаний с Past-Simple or Past Perfect, с глаголами *could, would*)

1. It is a pity you are ill.	1. I wish you were not ill.
2. What a pity you don't know enough English.	2.
3. The student was sorry he had not studied the subject better.	3.
4. It is a pity he was not exact enough	4.
5. I am sorry I did not pick up more good expression	5.

13. Open the brackets. Use the verb in a correct tense form.

1. I wish I(to pass) my driving test.
2. I wish the day (to be) sunny.
3. She wishes she (to study) at the University.
4. She wishes things (to be) different.
5. I wish I (to telephone) him yesterday.
6. I wish'we (to get) the job done tomorrow.

Text 10. Automated assembly

Before you read.

1. Discuss with your partner.

- Does automation imply unemployment?
- What have you ever heard of programmable assembly machines?

2. Mind pronunciation of the following words, translate them into Russian.

manual	attach
satisfy	add
equip	insert
deliver	consider

3. Read the text. Find the sentences describing the work of automated assembly machines.

Automated assembly

Assembly operations have traditionally been performed manually either at single assembly workstations or on assembly lines with multiple stations. Owing to the high labour content and high cost of manual labour, greater attention has been given in recent years to the use of automation for assembly work. Assembly operations can be automated using production line principles if the quantities are large, the product is small and the design is simple (e.g., mechanical pencils, pens, and cigarette lighters). For products that do not satisfy these conditions, manual assembly is generally required.

Automated assembly machines have been developed that operate in a manner similar to machining transfer lines, with the difference being that assembly operations, instead of machining, are performed at the workstations. A typical assembly machine consists of several stations, each equipped with a supply of components and a mechanism for delivering the components into position for assembly. A workhead at each station performs the actual attachment of the component. Typical workheads include automatic screwdrivers, welding heads and other joining devices. A new component is added to the partially completed product at each workstation, thus building up the product gradually as it proceeds through the line. Assembly machines of this type are considered to be examples of fixed automation, because they are generally configured for a particular product made in high volume. Programmable assembly machines are represented by the component-insertion machines employed in the electronics industry.

4. General understanding.

1. How have assembly operations traditionally been performed?
2. Why has greater attention been given to the automation for assembly work?
3. When can assembly operations be automated?
4. How does a typical assembly machine work?
5. What is a programmable assembly machine?
6. Where are assembly machines used?

5. Which of the listed below terms have Russian equivalents?

Assembly, traditional, operation, automation, production, machine, typical, component, fixed, programmable, perform, quantity

6. Which of the listed below statements are true/false? Specify your answer using the text.

1. Assembly operations have traditionally been performed manually.

2. These operations have been made at single assembly workstations or on assembly lines with multiple stations.

3. Owing to the high labour content and high cost of manual labour greater attention has been given to the use of automation.

4. Assembly operations can be automated using production line principles if the quantities are large.

5. Manual assembly is generally required for products when the product is small and the design is simple.

6. A typical assembly machine consists of several stations.

7. Programmable assembly machines are represented by the component - insertion machines employed in the electronics industry.

7. Match the following to make phrases.

1. ...have traditionally been performed manually.
2. ...can be automated using production line principles.
3. Owing to the high labour content and high cost of manual labour greater attention has been given to ...
4. A typical assembly machines consist of...
5. Assembly operations can be automated using ...
6. A new component is added to ... the
7. Assembly machines of this type are considered to be
 - a. ...examples for fixed automation
 - b. ...production line principles
 - c. ...partially completed products
 - d. Assembly operations (1)
 - e. Assembly operations (2)
 - f. ...several stations each equipped with a supply of mechanisms.
 - g. ...to the use of automation for assembly work.

8. Questions for group discussion.

1. How have assembly operations been performed earlier?
2. When is it not profitable to carry out assembly operations?
3. What does a typical assembly machine consist of?

9. Speaking. Describe a typical assembly machine.

10. Grammar. Subjunctive mood.

Use subjunctive mood

В придаточных подлежащих (начинающ. с союза that, когда главное предлож. выражено оборотами)	It is necessary, important, ordered, desirable, arranged,	that	Should + Simple Infinitive или Perfect Infinitive. Со всеми лицами ед. и мн. числа
В придаточных дополнительных	suggest, order, command, agree, propose...	that	Should + Simple Infinitive или Perfect Infinitive. Со всеми лицами ед. и мн. числа
В придаточных сказуемых	the suggestion, request, demand, order, wish...	is, was that	Should + Simple Infinitive или Perfect Infinitive. Со всеми лицами ед. и мн. числа
В придаточных определительных	gave the order, expressed request	that	Should + Simple Infinitive или Perfect Infinitive. Со всеми лицами ед. и мн. числа
Обстоятельства причины, цели	После lest, so that, that		Should + Simple Infinitive или Perfect Infinitive. Со всеми лицами ед. и мн. числа

Examples:

1. He suggests that the firm should get a license within a week.
2. The order was that they should attack the enemy.
3. We shall start early lest we should be late.
4. It is strange that he should behave so.
5. It is strange that he should have behaved so.

11. Use Subjunctive Mood in the correct form.

1. It is necessary that we (to return) to that matter again.
2. It is important that you (to see) a doctor.
3. The order was that we (to come) in Time.
4. The director gave an order that nobody (to leave) the room.
5. The experts recommended that the agreement (to extend) for 3 years.
6. We insisted that the form of payment (to specify) in the offer.

12. Make up sentences with Subjunctive Mood using the given below table.

1. I	suggest	to see the friends off
2. My friend	insisted	to spend summer in the mountains
3. The director	proposes	to attach the instructions to the contract
4. They	ordered	have a break
5. We	agree	to send him an express telegram

13. Writing. Is it a letter of complaint or a letter of application?

I am writing to inform you that the goods we ordered from your company have not been supplied correctly. This caused us considerable inconvenience.

I am writing to ask you to please make up the shortfall immediately and to ensure that such errors do not happen again. Otherwise we may have to look elsewhere for our supplies. I look forward to hearing from you by return.

Text 11. Automation in Industry

Fixed and programmable automation

Before you read.

1. Discuss with your partner:

- What do you know about automated production lines?
- In what industries are automated production lines especially widely used?

2. Mind the pronunciation of the following words, translate them into Russian.

consist	process
product	separate
sequence	automated
equipment	control
manufactory	design

3. Read the text. Pay attention to... «What is each station designed to perform?»

Automation in Industry

Fixed and programmable automation

Automated production lines

An automated production line consists of a series of workstations connected by a transfer system to move parts between the stations. This is an example of fixed automation, since these lines are set up for long production runs, making large number of product units and running for several years between changeovers. Each station is designed to perform a specific processing operation, so that the part or product is constructed stepwise as it progresses along the line. A raw work part enters at one end of the line, proceeds through each workstation and appears at the other end as a completed product. In the normal operations of the line, there is a work part being processed at each station, so that many parts are being processed simultaneously and a finished part is produced with each cycle of the line. The various operations, part transfers, and

other activities taking place on an automated transfer line must all be sequenced and coordinated properly for the line to operate efficiently.

Modern automated lines are controlled by programmable logic controllers, which are special computers that can perform timing and sequencing functions required to operate such equipment. Automated production lines are utilized in many industries, mostly automobile, where they are used for processes such as machining and press working.

Machining is a manufacturing process in which metal is removed by a cutting or shaping tool, so that the remaining work part is of the desired shape. Machinery and motor components are usually made by this process. In many cases, multiple operations are required to completely shape the part. If the part is mass-produced, an automated transfer line is often the most economical method of production. Many separate operations are divided among the workstations. Press working operations involve the cutting and forming of parts from sheet metal. Examples of such parts include automobile body panels, outer shells of laundry machines and metal furniture. More than one processing step is often required to complete a complicated part. Several presses are connected together in sequence by handling mechanism that transfers the partially completed parts from one press to the next, thus creating an automated press working line.

4. General understanding.

1. What does an automated production line consist of?
2. How does each station work?
3. Is it necessary that all the operations should be sequenced and coordinated?
4. How is the work of modern automated lines controlled?
5. Where are automated production lines applied?

5. Which of the listed below terms have Russian equivalents.

Automated, series, consist, line, product, sequence, process, equipment, manufactory, operation, machine, separate, control, include.

6. Form as many parts of speech as you can from the following.

Run, connect, produce, operate, control.

7. Which of the listed below statements are true/false? Specify your answer using the text.

1. An automated production line consists of a series of workstations connected by a transfer system.
2. Each station is designed to perform a special processing operation.
3. A raw work part enters at one end of the line.
4. Modern automated lines are controlled manually.
5. Automated production lines are utilized mostly in automobile industry.
6. Many separate operations are divided among the workstations.

8. Match the following to make phrases.

1. ...consist of a series of workstations connected by a transfer system.
2. Each station is designed ...
3. ...enters at one end of the line.
4. The various operations and other activities taking place.
5. ...are controlled by programmable logic controllers.
6. Machining is a manufacturing process ...
 - a. ...must all be sequenced and coordinated properly for the line to operate efficiently.
 - b. An automated production line...
 - c. ...to perform a special processing operations.
 - d. A raw work part...
 - e. ... in which metal is removed by cutting
 - f. Modern automated lines ...

9. Questions for group discussion.

1. Are press working operations widely used in industry?
2. How does automated production line work?
3. Where are automated production lines used?

10. Insert the words from the box.

Workstations presses shape station press working operations

1. ...involve the cutting and forming of parts from sheet metal.
2. Many separate operations are divided among ...
3. Several ... are connected together and must be sequenced.
4. Each ... is designed to perform a specific processing operations.
5. Many operations are required ... the part.

11. Speaking. Describe a press working operation.

12. Writing. Is it a memo or an express telegram.

Office of the Treasury,
15th Pennsylvania avenue,
Washington, D.C.

To all concerned

12th June 2010
memo T.O. №1576/A-3
Sub. Reduction in Postal Rates

It is regretted that no reduction in
Postal rates is now possible, but the
Treasury are always keeping this question in view.

J. Johnson
For the office of the Treasury

13. Grammar. Use *shall* or *will* where it is necessary.

1. I ... have no English tomorrow.
2. Where ... he wait for you.
3. They ... regret it if they do it.
4. I ... help him.
5. ... I open the window.

14. Modal Verbs Use: *can, could, may, might, have to, be to, must, ought, should. Where it is necessary.*

1. We ... *might/must* have come to the lecture.
2. We ... *could/ might* have introduced new technology.
3. A bird ... *may/must* be known by its song.
4. A cracked bell ... *must/can* never sound well.
5. What is done ... *may not/can't* be undone.
6. Great Britain ... *may/has* to import great variety of food products.
7. Every engineer ... *must/ought* to know the properties of materials.
8. They ... *should/can* have done this work earlier.

Text 12. Efficiency in Engineering Operations

Before you read.

1. Discuss with your partner:

- Why have you chosen an engineering profession?
- What is it necessary for becoming an expert in engineering profession?

2. Mind the pronunciation of the following words, translate them into Russian.

raw material	device
reliable	term
need	manufacture
performance	introduce
secure	weave

3. Read the text. Mind. «How is the rate of efficiency calculated?»

Efficiency in Engineering Operations

To solve an engineering problem means to find a proper solution having taken into account the user's needs and conflicting requirements of the production process. Efficiency costs money, safety adds complexity, performance increases weight. An engineering solution is to be the optimum based on many factors: it should be the cheapest for a given performance, the most reliable for a given weight, the simplest for a given safety or the most efficient for a given cost. In other words engineering means performance optimization. The rate of

efficiency is calculated according to "output divided by input" formula: one should secure a given output for a minimum input. Efficiency is achieved by using efficient methods, devices and personnel organization. The efficiency ratio may be expressed in terms of energy, materials, money, time or men. The processing of new antibiotics in the test-tube stage belongs to the field of biochemistry science. One of the main engineering problems is to start the efficient process of their manufacturing but the need for efficiency brings about the introduction of complicated engineering operations. The efficiency factor also helps to differentiate ceramic engineering from the work of the potter, textile engineering from weaving, and agricultural engineering from farming. Since output is input minus losses, the engineer must keep losses and wastes to a minimum having developed methods for waste products to be properly utilized. Losses due to friction can occur in any machine or system. Efficient functioning depends on a good design, lubrication facilities and careful attention to operating difficulties. The raw materials engineers have to work with are not often found in useful forms. Engineering is required to conceive, design and convert energy of a mountain stream into the powerful torque of an electric motor. Similarly, many engineering operations are required to change the seashore sands into precise lenses to observe the microscopic amoeba in a drop of water. In a certain sense, the successful engineer is a person who is able to improve things.

4. General understanding.

1. How is efficiency achieved?
2. Should conflicting requirements of production process be taken into consideration when solving an engineering problem?
3. Is an engineering solution to be based on many factors: cost, reliability, safety and others?
4. What is the main engineering problem?
5. How can the efficiency ratio be expressed?

5. Which of the listed below terms have Russian equivalents?

Efficiency, problem, production, process, engineering, factor, calculate, minimum, material, textile, biochemistry, method, reliable, requirement.

6. Which of the listed below statements are true/false? Specify your answer using the text.

1. Raw materials are often found in the forms engineers have to work with.
2. Efficiency, among other ways, is achieved through using corresponding personnel organisation.
3. Conflicting requirements of the production process should be taken into consideration when solving an engineering problem.
4. Losses due to heating can occur in any system.
5. A successful engineer must be able to avoid unnecessary losses of energy and materials.
6. An engineering solution is to be based on many factors.

7. Match the following to make phrases.

1. To solve an engineering problem means ...
2. Efficiency costs ...
3. The rate of efficiency is calculated ...
4. The efficiency ratio ...
5. Efficiency is achieved ...
 - a. ... according to "output divided by input" formula.
 - b. ... may be expressed in terms of energy, materials, money, time or men
 - c. ... to find a proper solution having taken into account the user's needs and ...
 - d. ... money, safety adds complexity.
 - e. ... by using efficient methods, devices and personnel organisation.

8. Fill in the gaps with the words from the box.

Money engineering solution biochemistry science successful engineer the rate of efficiency

1. ... is to be optimum based on many factors.
2. Efficiency costs ...
3. ... is calculated according to "output" divided by "input" formula.
4. ... isa person who is able to improve things.
5. The processing of new antibiotics belongs to the field of...

9. Form as many parts of speech as possible from the following.

Requirement, cost, calculate, introduce.

10. Questions for group discussion.

1. What is efficiently in engineering?
2. How is the rate of efficiency calculated?
3. What raw materials have engineers to work with?

11. Speaking. Describe the efficiency in engineering operations.

12. Writing. Is it a curriculum vitae or memo. Order the parts of the summary correctly:

Personal details
References
Education
Skills
Activities

13. Grammar. Fill in the gaps with "should" or "would".

1. I said we ... have a meeting on Monday.
2. I ... come if I had time.
3. We ... have caught the train if we have walked faster.
4. It is important that he ... return to Moscow.
5. It is strange that he ... behave so.
6. He recommended that the goods ... be shipped at once.
7. I ring him up at once so that he ... not wait for me.
8. He said he ... return soon.
9. I ... call on him on my way home.
10. ... you mind opening the window?

VOCABULARY

A

access_n – доступ
account_v (to take into) – принимать во внимание
add_v – добавлять, присоединить
advertise_v – рекламировать, делать объявление
affect_v – влиять
aid_n – помощь
alarm clock_n – будильник
allow_v – позволять
amount_n – количество
appear_v – показываться, являться, выходить, казаться
application_n – заявление, просьба, применение, прилежание
apply_v – применять, использовать
arrange_v – улаживать, приводить в порядок
assemble_v – собирать, монтировать
assessment_n – оценка, определение
attach_v – присоединять
attachment_n – прикрепление, привязанность, принадлежность
attend_v – посещать, присутствовать, уделять внимание

B

boot_v – загружать
bring_v – приносить, доставлять, приводить
branch_n – отрасль, ветвь
broadcast live_v – передавать в прямом эфире
browse_v – рассматривать, разглядывать
browser_n – браузер (программа поиска информации)

C

calculate_v – вычислять, рассчитывать
capacity_n – вместительность, мощность, объем, производительность, нагрузка
CD-ROM_n – накопитель на компакт-дисках (СД)
century_n – век, столетие
change-over_n – изменение, переключение
characters_n – символы
check_v – проверять
church_n – церковь
circuitry_n – эл. сети
come to life_v – оживать

compatible_{adj} – совместимый
compare_v – сравнивать, сличать
compete_v – соревноваться
complete_v – совершать, завершить
complex_{adj} – сложный
compulsory_{adj} – обязательный
conceive_v – задумывать
concept_n – понятие
conduct_v – проводить
conflict_n – конфликт
connectivity_n – связь, сочленение
connect_v – соединять
consider_v – считать, рассматривать
consist_v – состоять
consume_v – потреблять
consumer_n – потребитель
control_{n,v} – управление, управлять, регулировать
convert_v – превращать, преобразовывать
cost_{n,v} – стоимость, стоить
CPU, microprocessor_n – микропроцессор
create_v – создавать

D

data_n – данные
decade_n – декада, десятилетие
decision_n – решение
deliver_v – доставлять
depend_v (on, upon) – зависеть, полагаться, рассчитывать на
design_{n,v} – план, проект, проектировать, различать
desire_{v,n} – желать, желание
destination_n – место назначения
developer_n – разработчик
develop_v – развивать, проявлять
device_n – устройство
differentiate_v – дифференцировать, различать
direct – управлять

E

effort_n – попытка
employment_n – работа, служба
engineering_n – техника, инженерное искусство

enhance_v – увеличивать, расширять
entertainment_n – развлечение, представление
equip_v – оборудовать, оснащать
equipment_n – оборудование
evaluate_v – оценивать
experience_n – опыт
expertise_n – компетентность, эрудиция
execute_v – выполнять

F

feedback_n – обратная связь, отклик, отзыв, реакция
fix_v – устанавливать, фиксировать
flexible_{adj} – гибкий

G

gain_v – добиваться, приобретать, добывать пользу
general purpose – общего назначения
guide_n – путеводитель, руководство, учебник

H

handcraft_n – ремесло, ручная работа
handle_v – управлять, общаться с
hard disk_n – жесткий диск "винчестер"
hardware_n – оборудование
humanities_n – гуманитарные науки
hyperlink_n – гиперссылка

I

imitate_v – имитировать, копировать
impact_n – воздействие, влияние
improve_v – улучшать, совершенствовать
independent_{adj} – независимый, отдельный
input hardware_n – устройства ввода данных
insert_v – вставлять, вкладывать, вводить
install_v – устанавливать, встраивать, инсталлировать
instruction_n – команда, обучение, инструктаж, программа
integrate_v – интегрировать, объединять
intelligence_n – разум
internal_{adj} – внутренний
interpret_v – переводить
intervention_n – интервенция, вмешательство
introduce_v – вводить

К

keyboard_n – клавиатура

L

lap_n – колени

lay out_n – расположение, планировка, разбивка

light pen_n – световое перо

link_{v,n} – связь, связывать

loss_n – потеря

lubrication_n – смазывание

М

mainboard_n – материнская плата

manner_n – манера, способ

manual_{adj} – ручной

manufacture_n – изготовление, производство

medieval_{adj} – средневековый

memory capacity_n – вместительность памяти

message_n – послание

microwave_{adj} – микроволновый, микроволна

modem_n – модем

mouse_n – устройство перемещения объектов на экране «мышь»

multiple users_n – многочисленные пользователи

N

network_n – сеть

notable_{adj} – достопримечательный, выдающийся

numerical control_n – числовой контроль

О

offer_v – предлагать

on top of DOS – «сверху», на основе ДОС

opportunity_n – возможность

output hardware_n – выходные устройства отображения информации

outstanding_{adj} – выдающийся, видный

Р

packet_n – пакет, связка, группа

perform_v – выполнять

performance_n – выполнение, выступление

peripheral_{adj} – периферийный

persistence_n – настойчивость, постоянство

potter_n – гончар

previously_{adv} – раньше
printer_n – принтер
procedure_n – процедура, операция
process_{v,n} – обрабатывать, процесс, прием, способ
processing hardware_n – устройство обработки данных
produce_v – выпускать, производить
promise_{v,n} – обещать, обещание
provide_v – обеспечивать
provide with_v – обеспечивать чем-либо
provider_n – провайдер (компания, представляющая доступ к WWW через местные телефонные сети)
purpose_n – цель

R

RAM_n – ОЗУ (оперативное запоминающее устройство)
rate_n – норма, размер, скорость
raw_{adj} – необработанный, сырой
reach_v – достигать
realize_v – понять, осознавать
rebuilt_v – строить снова, перестраивать, реконструировать
recreation_n – развлечение
refer_v – приписывать, ссылаться, иметь отношение
refer_v (to as) – называть что-либо
refine_v – очищать
regard_n – отношение, уважение, расположение
regardless_{adv} – несмотря на, безотносительно
reliable_{adj} – надежный, прочный
represent_v – представлять, изображать
requirement_n – потребность, требование
resemble_v – напоминать, находить
research_{n,v} – исследовать, исследование
respond_v – отвечать, реагировать
retrieve_v – извлекать
roll_v – катать, перекатывать
ROM_n – ПЗУ (постоянное запоминающее устройство)
run_v – управлять, действовать

S

satisfy_v – удовлетворять
scanner_n – сканер
scent_n – запах, чутье

scope_n – размах, охват
screwdriver_n – отвертка
secure_v – обеспечивать безопасность
security_n – безопасность
sensitive_{adj} – чувствительный
sensor_n – датчик
sequence_n – последовательность
settle_v – регулировать, приводить в порядок, устанавливать
shape_n – форма
share_v – делить
shell_n – панцирь, оболочка
ship_v – поставлять, доставлять (are shipped_v,- поставляются)
simplification_n – упрощение
simultaneously_{adj} – одновременно
site_n – страница, сайт
smart_{adj} – умный
solution_n – решение
solve_v – решать
sophisticated_{adj} – сложный
specific_{adj} – конкретный, определенный
stack_n – масса, куча, груда
stepwise_{adv} – постепенно
storage hardware – устройство хранения данных
store_{v n} – записывать, хранить, вмещать, склад, запас
subjective_{adj} – субъективный
switch_v – включать, переключать

T

temporarily_{adv} – временно
temporary_{adj} – временный
tier_n – ярус
top_n – вершина
torque_n – момент вращения, скручивающее усилие
transfer_v – переводить, переносить
transmission_n – передача
treat_v – общаться, относиться, обрабатывать

U

ubiquitous_{adj} – повсеместный, вездесущий
understand_v – понимать, заключать, подразумевать
user_n – пользователь
utilize_v – использовать

V

variety_n – разнообразие, спектр

version_n – версия

volatile_{adj} – летучий, нестойкий, временный

W

waste_{n v adj} – отходы, ущерб, опустошать, истощать, отработанный, ненужный, опустошенный

weave_v – ткать

web-browser_n – «браузер» (программа, позволяющая пользователю искать и считывать информацию с глобальной электронной сети Internet)

widespread_{adj} – широко распространенный

workstation_n – рабочая станция

worldwide web_n – «всемирная паутина»

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