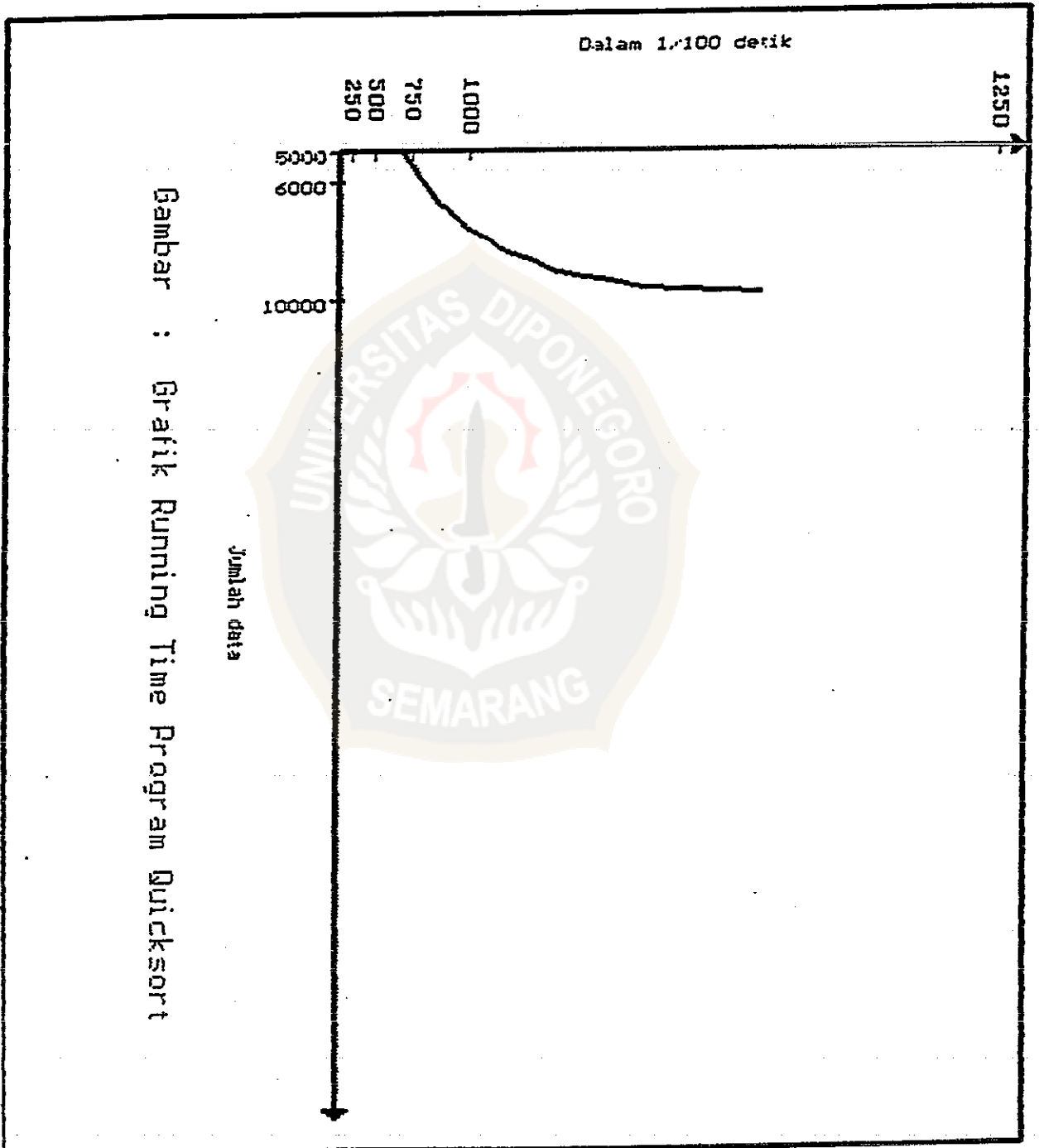
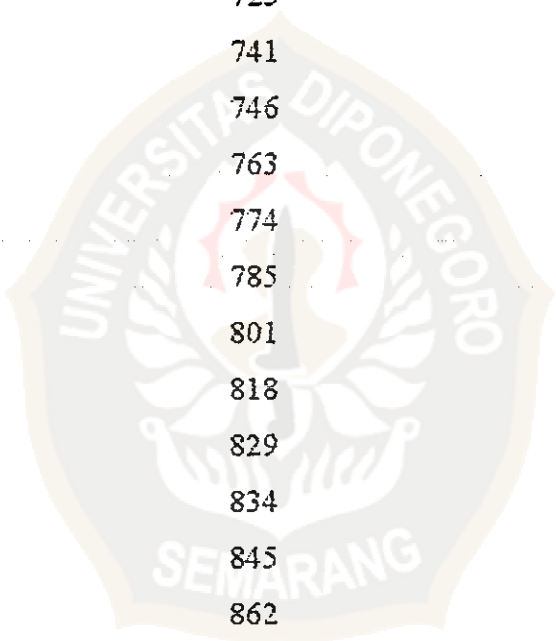


Lampiran No. 1



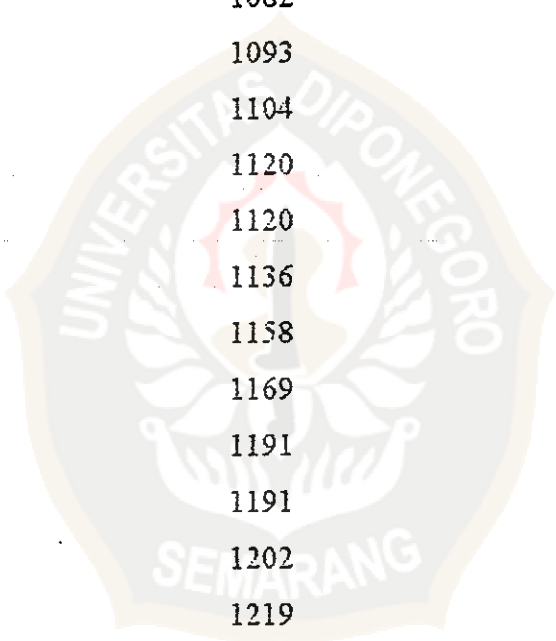
Lampiran No. 2

Jumlah data	Waktu (1/100 dt)
5000	648
5100	664
5200	681
5300	686
5400	697
5500	714
5600	725
5700	741
5800	746
5900	763
6000	774
6100	785
6200	801
6300	818
6400	829
6500	834
6600	845
6700	862
6800	878
6900	884
7000	900
7100	911
7200	917
7300	939
7400	944
7500	961
7600	966
7700	988
7800	999



Lampiran No. 3

Jumlah data	Waktu (1/100 dt)
7900	1010
8000	1027
8100	1038
8200	1049
8300	1065
8400	1076
8500	1082
8600	1093
8700	1104
8800	1120
8900	1120
9000	1136
9100	1158
9200	1169
9300	1191
9400	1191
9500	1202
9600	1219
9700	1224
9800	1241
9900	1257
10000	1268



Lampiran No. 4

Program grafiks;

```
uses crt,graph,dos;
```

```
var
```

```
  A : array[1..31000] of integer;
```

```
  jml_dt,y,randm,z,n,
```

```
  jml,awal,btsbwh,step,waktu : integer;
```

```
  jam,menit,sec,secper100 : word;
```

```
  sbx,sby : real;
```

```
procedure inisialisasi;
```

```
var
```

```
  gd,gm,R : Integer;
```

```
Begin
```

```
  gd := DETECT;
```

```
  Gm := VGAHi;
```

```
  InitGraph(gd,gm,'C:\DOSAPP\TP7\BGI');
```

```
  If GraphResult <> GrOK Then Halt(1);
```

```
end;
```

```
Procedure batas;
```

```
begin
```

```
  btsbwh := round(getmaxy*0.65);
```

```
end;
```

```
procedure layar;
```

```
begin
```

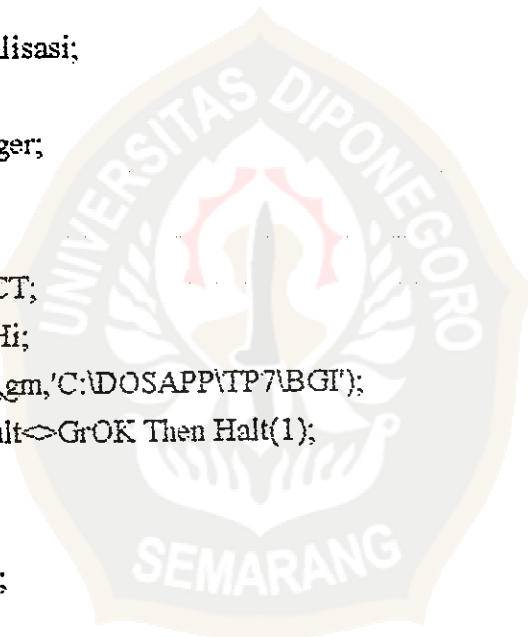
```
  setlinestyle(0,0,3);
```

```
  setcolor(blue);
```

```
  setbkcolor(white);
```

```
  rectangle(3,3,getmaxx-3,getmaxy-3);
```

```
end;
```



Lampiran No. 5

Procedure sumbuxy;

Begin

```
setlinestyle(0,0,3);
setcolor(red);
line(80,5,80,btsbwh+10);moveto(80,5);
lineto(75,10);lineto(85,10);lineto(80,5);
line(80,btsbwh+10,getmaxx-20,btsbwh+10);
moveto(getmaxx-20,btsbwh+10);lineto(getmaxx-25,btsbwh+5);
lineto(getmaxx-25,btsbwh+15);lineto(getmaxx-20,btsbwh+10);
moveto(80,btsbwh+10);
```

End;

procedure skalasbx(mulai,usai:integer);

var

```
s : integer;
noskx,judul1,judul2 : string;
```

begin

for s := 1 to 6 do

begin

```
setcolor(red);
outtextxy(77+(s-1)*100,btsbwh+8,'I');
str(mulai+((usai-mulai) div 5)*(s-1),noskx);
outtextxy(65+(s-1)*100,btsbwh+20,noskx);
```

end;

setcolor(red);

judul1:='Jumlah data';

judul2:='Gambar : Grafik Running Time Program Quicksort';

setttextstyle(2,0,4);

outtextxy(300,btsbwh+40,judul1);

setttextstyle(2,0,6);

outtextxy(100,btsbwh+80,judul2);

setttextstyle(0,0,1);

end;

Lampiran No. 6

```
procedure skalasby;
var
  s          : integer;
  tot        : real;
  nosky,judul3 : string;

begin
  tot:=0;
  for s:=1 to 1250 do begin
    tot:=tot+40/(1250-s+1);
    if s mod 250 = 0 then begin
      setcolor(red);
      outtextxy(80,(btsbwh+10)-round(tot),'-');
      str(s,nosky);
      outtextxy(40,(btsbwh+10)-round(tot),nosky);end;end;
      setcolor(red);
      judul3:='Dalam 1/100 detik';
      settextstyle(2,1,4);
      outtextxy(15,btsbwh-200,judul3);
      settextstyle(0,0,1);
      moveto(80,btsbwh+10);
    end;

  procedure swap(var x,y:integer);
  var
    temp : integer;
  begin
    temp := x;
    x := y;
    y := temp;
  end;
```

Lampiran No. 7

```
procedure quicksort(l,r:integer);
var
  v,i,j : integer;
begin
  if r>l then
    begin
      i:=l;j:=r+1;v:=A[l];
      repeat
        repeat i := i+1;until A[i] >= v;
        repeat j := j-1;until A[j] <= v;
        if j>=i then swap(A[i],A[j]);
      until j<i;
      swap(A[l],A[j]);
      quicksort(l,j-1);
      quicksort(i,r);
      delay(2);
    end;
  end;
```



Lampiran    No. 8

```
{ ***** PROGRAM UTAMA ***** }
```

```
begin
  textbackground(0);clrscr;
  write('random angka 0....n : ');readln(randm);
  write('banyak data ( maximal 31000 ) ? : ');readln(jml_dt);
  write('awal plotting data pada grafik ? : ');readln(awal);
  write('step plotting data ? : ');readln(step);
  inisialisasi;
  batas;
  layar;
  sumbuxy;
  skalasbx(awal,jml_dt);
  skalasby;
  y:=awal;
  repeat
    randomize;
    for z := 1 to y do A[z] := random(randm);
    settime(0,0,0,0);
    quicksort(1,y);
    gettime(jam,menit,sec,secper100);
    waktu:= jam*60*60*100+menit*60*100+sec*100+secper100;
    sbx:=(y-awal)*((500)/(jml_dt-awal));
    if waktu<=1250 then begin
      sby:=0;
      for n:=1 to waktu do
        sby:=sby+40/(1250-n+1);
        setcolor(blue);setlinestyle(0,0,3);
        lineto(round(sbx)+80,(btsbwh+10)-round(sby));end
      else
        y:=jml_dt;
        y := y + step;
    until y> jml_dt;
  repeat until keypressed;cleardevice;
  closegraph;
end.
```