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| Nama | M.Wisnu.Aji.P |
| NIM | C1A160047 |
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1. No.26

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| const  MAXS = 10;  var  i, n : integer;  A : array[1..10] of integer;    procedure klik();  begin  i := i-1;  end;    function klek(x : integer) : integer;  begin  if(x = MAXS) then  klek := A[x] \* A[1]  else  klek := A[x] \* A[x+1];  end;    function klok() : integer;  var  tmp : integer;  begin  if(i = 0) then  klok := i  else  begin  tmp := i;  klik();  klok := klok() + klek(tmp);  end;  end;  begin  A[1] := 1;  A[2] := 2;  A[3] := 3;  A[4] := 4;  A[5] := 5;  A[6] := 6;  A[10] := 11;  A[9] := 9;  A[7] := 8;  A[8]:=7;  read(n);  i := n;  writeln(klok());  end. |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| const  MAXS = 10;  var  i, n : integer;  A : array[1..10] of integer;    procedure klik();  begin  i := i-1;  writeln('klik:i=',i,' ');  end;    function klek(x : integer) : integer;  begin  if(x = MAXS) then  klek := A[x] \* A[1]  else  klek := A[x] \* A[x+1];  write('klek:',klek,' ');  end;    function klok() : integer;  var  tmp : integer;  begin    if(i = 0) then  begin  klok := i;  writeln('Rekrusif Balik : ');  write('klok:',klok,' + ');  end  else  begin  tmp := i;  write('klok:tmp=',tmp,' ');  klik();  writeln;  klok := klok() + klek(tmp);  write('= klok:',klok,' + ');  end;  end;  begin  A[1] := 1;  A[2] := 2;  A[3] := 3;  A[4] := 4;  A[5] := 5;  A[6] := 6;  A[10] := 11;  A[9] := 9;  A[7] := 8;  A[8]:=7;    writeln('Isi Array A : ');  for i:=1 to 10 do  write(A[i],' ');    writeln;  writeln;    n:=6;  i := n;  klok();  //writeln(klok());  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| Isi Array A :  1 2 3 4 5 6 8 7 9 11  klok:tmp=6 klik:i=5  klok:tmp=5 klik:i=4  klok:tmp=4 klik:i=3  klok:tmp=3 klik:i=2  klok:tmp=2 klik:i=1  klok:tmp=1 klik:i=0  Rekrusif Balik :  klok:0 + klek:2 = klok:2 + klek:6 = klok:8 + klek:12 = klok:20 + klek:20 = klok:40 + klek:30 = klok:70 + klek:48 = klok:118 + |

1. No.27

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| function Proses(x : integer) : integer;  begin  if(x <= 1) then  Proses := x  else  Proses := Proses(x div 2 \* x mod 2) + Proses(x div 2 + x mod 2);  end; |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Var  is\_0,is\_1,is\_2,is\_3: boolean;    function Proses(x : integer) : integer;  var  hsl\_div : integer;  hsl\_mod : integer;  hsl\_kali : integer;  hsl\_tmbh : integer;  begin  if(x <= 1) then  begin  Proses := x;  if( (not is\_0) or (not is\_1) )then  begin  writeln('Proses(',x,')=',x);  if(not is\_0)then  is\_0:=x=0;  if(not is\_1)then  is\_1:=x=1;  end;    end  else  begin  hsl\_div := x div 2;  hsl\_mod := x mod 2;  hsl\_kali := hsl\_div\*hsl\_mod;  hsl\_tmbh := hsl\_div+hsl\_mod;  Proses := Proses(hsl\_kali) + Proses(hsl\_tmbh);  if(((not is\_2) or (not is\_3)) or (x>3)) then  begin  writeln('Proses(',x,')= Proses(',hsl\_kali,') + Proses(',hsl\_tmbh,') = ',proses);  if(not is\_2)then  is\_2:=x=2;  if(not is\_3)then  is\_3:=x=3;  end;  end;  end;  begin  is\_0:=false;  is\_1:=false;  is\_2:=false;  is\_3:=false;  Proses(11);  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| Proses(0)=0  Proses(1)=1  Proses(2)= Proses(0) + Proses(1) = 1  Proses(2)= Proses(0) + Proses(1) = 1  Proses(3)= Proses(1) + Proses(2) = 2  Proses(5)= Proses(2) + Proses(3) = 3  Proses(6)= Proses(0) + Proses(3) = 2  Proses(11)= Proses(5) + Proses(6) = 5 |

1. No 28
2. No 29

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| var  ar : array[1..10] of integer = (1,6,2,3,4,7,2,4,2,1);    procedure mantaps(n : integer);  var  i : integer;  iNi : integer;  temp : integer;  begin  if(n > 1) then  begin  iNi := n;  for i := 1 to n-1 do  begin  if(ar[i] < ar[iNi])  then iNi := i;  end;  temp := ar[n];  ar[n] := ar[iNi];  ar[iNi] := temp;  mantaps(n-1);  end;  end; |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Program OS\_16\_29;  uses crt;  var  ar : array[1..10] of integer;// = (1,6,2,3,4,7,2,4,2,1);  procedure mantaps(n : integer);  var  i,j : integer;  iNi : integer;  temp : integer;  begin  if(n > 1) then  begin  iNi := n;  write(iNi,' ');    for i := 1 to n-1 do  begin  if(ar[i] < ar[iNi])  then iNi := i;  end;    write(iNi,' ');    temp := ar[n];  ar[n] := ar[iNi];  ar[iNi] := temp;    for j:=1 to 10 do  write(ar[j],' ');    writeln;    mantaps(n-1);  end;  end;  var  i:integer;  begin  ar[1] := 1;  ar[2] := 6;  ar[3] := 2;  ar[4] := 3;  ar[5] := 4;  ar[6] := 7;  ar[7] := 2;  ar[8] := 4;  ar[9] := 2;  ar[10]:= 1;  writeln('Isi ar sebelum mantaps : ');  for i:=1 to 10 do  write(ar[i],' ');  writeln;    writeln('Isi ar dalam mantaps : ');  writeln('ini ini ar ');  mantaps(5);  writeln;    writeln('Isi ar setelah mantaps : ');  for i:=1 to 10 do  write(ar[i],' ');  readln();  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| Isi ar sebelum mantaps :  1 6 2 3 4 7 2 4 2 1  Isi ar dalam mantaps :  ini ini ar  5 1 4 6 2 3 1 7 2 4 2 1  4 3 4 6 3 2 1 7 2 4 2 1  3 3 4 6 3 2 1 7 2 4 2 1  2 1 6 4 3 2 1 7 2 4 2 1  Isi ar setelah mantaps :  6 4 3 2 1 7 2 4 2 1 |

1. NO 30

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| Var  x,y: integer;  begin  x := 1; y := 0;  while(x <= 10) do  begin  y := y + x;  x := x + x;  end;  writeln(y);  end. |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Program OSP\_16\_30;  Uses crt;  var  x,y: integer;  begin  x := 1;  y := 0;  while(x <= 10) do  begin  y := y + x;  writeln('penjumlahan ',y,' + ',x,' =',y);  x := x + x;  writeln('penjumlahan ',x,' + ',y,' =',x);  end;  writeln('y:= ',y,' + ',x,' = ',y);  writeln;  writeln(y);  readln();  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| penjumlahan 1 + 1 =1  penjumlahan 2 + 1 =2  penjumlahan 3 + 2 =3  penjumlahan 4 + 3 =4  penjumlahan 7 + 4 =7  penjumlahan 8 + 7 =8  penjumlahan 15 + 8 =15  penjumlahan 16 + 15 =16  y:= 15 + 16 = 15  15 |

1. Soal no 31

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| var  ar : array[1..10] of integer = (4, 5, 10, 5, 51, 33, 49, 64, 2, 7);  a, b, c, i : integer;  begin  a := -1;  for i := 1 to 10 do  begin  if a = -1  then a := i  else if ar[i] > ar[a]  then a := i;  end;  b := -1;  for i := 1 to 10 do  begin  if i <> a then  begin  if b = -1 then  b := i  else  if ar[i] > ar[b]  then b := i;  end;  end;  c := -1;  for i := 1 to 10 do  begin  if (i <> a) and (i <> b) then  begin  if c = -1  then c := i  else  if ar[i] > ar[c]  then c := i;  end;  end;  writeln(a, ' ', b, ' ', c);  end. |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Program OSP\_16\_31;  Uses crt; |
| Output Dari Kode Program Yang Dimodifikasi : |
| Bs [] |

1. No 32

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| var |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Program OSP\_16\_32;  Uses crt; |
| Output Dari Kode Program Yang Dimodifikasi : |
| Bs [] |

1. N0 33

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| Kode Program Dalam Soal : *(Soal Dirapikan)* |
| arr: array [1..20] of integer = (303, 304, 365, 454, 487, 6, 12, 15, 78, 90, 155, 169, 183, 205, 209, 218, 5, 269, 282, 287);  function get:integer;  var  m: integer;  left, right: integer;  begin  if (arr[1] < arr[20]) then  get := 1  else  begin  left := 1;  right := 20;  while (left < right) do  begin  m := (left+right) div 2;  if (arr[1]<=arr[m])then  left := m+1  else  right := m;  end;  get := left;  end;  end; |
| Kode Program Dimodifikasi : *(Hasil Modifikasi Diwarnai)* |
| Program OSP\_30\_16;  Uses crt;  var  arr: array [1..20] of integer;  function get:integer;  var  m: integer;  hsl\_div : integer;  jml\_lr : integer;  left, right: integer;  begin  if (arr[1] < arr[20]) then  begin  get := 1  end  else  writeln('===================================');  begin  left := 1;  right := 20;  while (left < right)do  begin  writeln;  writeln(' left right ');  writeln(' ',left,' ',right);  m := (left+right) div 2;  hsl\_div := m;  jml\_lr := left+right;  writeln;  writeln(' m := ',jml\_lr,' div 2 = ',hsl\_div);  writeln;  if (arr[1]<=arr[m])then  left := m+1  else  right := m;  writeln;  writeln(' arr[m] = ',arr[m],' maka m = ',m);  writeln('===================================');  writeln(' arr[m] = ',arr[m],' ',', left = ',left,', right = ',right);  end;  get := right;  writeln();  writeln('jadi get = ',get);  end;  end;  begin  arr[1] := 303; arr[11]:= 155;  arr[2] := 304; arr[12]:= 169;  arr[3] := 365; arr[13]:= 183;  arr[4] := 454; arr[14]:= 205;  arr[5] := 487; arr[15]:= 209;  arr[6] := 6; arr[16]:= 218;  arr[7] := 12; arr[17]:= 5;  arr[8] := 15; arr[18]:= 269;  arr[9] := 78; arr[19]:= 282;  arr[10]:= 90; arr[20]:= 287;  writeln(get);  readln();  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| ===================================  left right  1 20  m := 21 div 2 = 10  arr[m] = 90 maka m = 10  ===================================  arr[m] = 90 , left = 1, right = 10  left right  1 10  m := 11 div 2 = 5  arr[m] = 487 maka m = 5  ===================================  arr[m] = 487 , left = 6, right = 10  left right  6 10  m := 16 div 2 = 8  arr[m] = 15 maka m = 8  ===================================  arr[m] = 15 , left = 6, right = 8  left right  6 8  m := 14 div 2 = 7  arr[m] = 12 maka m = 7  ===================================  arr[m] = 12 , left = 6, right = 7  left right  6 7  m := 13 div 2 = 6  arr[m] = 6 maka m = 6  ===================================  arr[m] = 6 , left = 6, right = 6  jadi get = 6  6 |