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| OSP | 2016 |

1. No.26

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| Kode Program Dalam Soal : |
| 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 : |
| Uses crt;  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());  Readln;  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 : |
| 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 : |
| Uses crt;  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);  Readln;  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 |

3. No. 28

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| Kode Program Dalam Soal : |
| function noan(n : integer) : integer;  begin  if(n < 4) then noan := n  else noan := noan(n-1) + noan(n-2) + noan(n-4);  end; |
| Kode Program Dimodifikasi : |
| uses crt;  function noan(n : integer) : integer;  begin  if(n < 4) then noan := n  else noan := noan(n-1) + noan(n-2) + noan(n-4);  end;  var n:integer;  begin  read(n);  n:=noan(n);  write(n);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 49 |

4. No. 29

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| Kode Program Dalam Soal : |
| 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 : |
| uses crt;  var  ar : array[1..10] of integer;  procedure mantaps(n : integer);  var  i : integer;  iNi : integer;  temp : 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;    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;  var  n:integer;  begin  read(n);  mantaps(n-1);  write(n);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 5 |

5. No. 30

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| Kode Program Dalam Soal : |
| 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 : |
| uses crt;  var  x,y: integer;  begin  x := 1;  y := 0;  while(x <= 10) do begin  y := y + x;  x := x + x;  end;  writeln(y);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 15 |

6. No. 31

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| Kode Program Dalam Soal : |
| 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 : |
| uses crt;  var  ar : array[1..10] of integer;  a, b, c, i : integer;  begin  ar[1]:=4;  ar[2]:=5;  ar[3]:=10;  ar[4]:=5;  ar[5]:=51;  ar[6]:=33;  ar[7]:=49;  ar[8]:=64;  ar[9]:=2;  ar[10]:=7;  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);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 8 5 7 |

7. No. 32

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| Kode Program Dalam Soal : |
| function meong(x: longint):integer;  begin  if (x = 0) then  meong := 0  else if (x mod 2 = 1) and ((x div 2) mod 2 = 1) then  meong := meong((x div 2) div 2) + 1  else  meong := meong(x + 1) + 1;  end;  begin  writeln(meong(888));  end. |
| Kode Program Dimodifikasi : |
| uses crt;  function meong(x: longint):integer;  begin  if (x = 0) then  meong := 0  else if (x mod 2 = 1) and ((x div 2) mod 2 = 1) then  meong := meong((x div 2) div 2) + 1  else  meong := meong(x + 1) + 1;  end;  begin  writeln(meong(888));  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 11 |

8. No. 33

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| Kode Program Dalam Soal : |
| var  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 : |
| uses crt;  var  arr: array [1..20] of integer;  function get : integer;  var  m: integer;  left, right: integer;  begin  arr[1]:=303;  arr[2]:=304;  arr[3]:=365;  arr[4]:=454;  arr[5]:=487;  arr[6]:=6;  arr[7]:=12;  arr[8]:=15;  arr[9]:=78;  arr[10]:=90;  arr[11]:=155;  arr[12]:=169;  arr[13]:=183;  arr[14]:=205;  arr[15]:=209;  arr[16]:=218;  arr[17]:=5;  arr[18]:=269;  arr[19]:=282;  arr[20]:=287;  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;  begin  write(get);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 6 |

9. No. 34

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| Kode Program Dalam Soal : |
| Var  ar : array[1..1000] of Boolean;  i,j : integer;  begin  for i := 1 to 1000 do  ar[i] := false;  for i := 1 to 1000 do begin  j := i;  while(j <= 1000) do begin  ar[j] := not(ar[j]);  j := j + i;  end;  end;  end. |
| Kode Program Dimodifikasi : |
| uses crt;  Var  ar : array[1..1000] of Boolean;  i,j : integer;  begin  for i := 1 to 1000 do  ar[i] := false;  for i := 1 to 1000 do begin  j := i;  while(j <= 1000) do begin  ar[j] := not(ar[j]);  j := j + i;  end;  end;  writeln(i);  writeln(j);  readln;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 1000  2000 |

10 No. 35

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| Kode Program Dalam Soal : |
| var  isi : array[1..10] of integer = (-4,1,7,9,0,1,2,4,3,-1);  function X(l, r, v : integer) : longint;  var  temp : integer;  begin  if(l = r) then X := isi[l]  else begin  temp := (l + r) div 2;  if(isi[temp] > v) then begin  X := X(l, temp, v);  end else  X := X(temp + 1, r, v);  end;  end; |
| Kode Program Dimodifikasi : |
| Uses crt;  var  isi : array[1..10] of integer ;  function X(l, r, v : integer) : longint;  var  temp : integer;  begin  isi[1]:=-4;  isi[2]:=1;  isi[3]:=7;  isi[4]:=9;  isi[5]:=0;  isi[6]:=1;  isi[7]:=2;  isi[8]:=4;  isi[9]:=3;  isi[10]:=-1;  if(l = r) then X := isi[l]  else begin  temp := (l + r) div 2;  if(isi[temp] > v) then begin  X := X(l, temp, v);  end else  X := X(temp + 1, r, v);  end;  end;  var  hasil,a,b,c : integer;  begin  read(a);  read(b);  read(c);  hasil:=x(a,b,c);  write(hasil);  readln;  readln;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 7 |

11. No. 36

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| Kode Program Dalam Soal : |
| var  isi : array[1..10] of integer = (-4,1,7,9,0,1,2,4,3,-1);  function X(l, r, v : integer) : longint;  var  temp : integer;  begin  if(l = r) then X := isi[l]  else begin  temp := (l + r) div 2;  if(isi[temp] > v) then begin  X := X(l, temp, v);  end else  X := X(temp + 1, r, v);  end;  end; |
| Kode Program Dimodifikasi : |
| Uses crt;  var  isi : array[1..10] of integer ;  function X(l, r, v : integer) : longint;  var  temp : integer;  begin  isi[1]:=-4;  isi[2]:=1;  isi[3]:=7;  isi[4]:=9;  isi[5]:=0;  isi[6]:=1;  isi[7]:=2;  isi[8]:=4;  isi[9]:=3;  isi[10]:=-1;  if(l = r) then X := isi[l]  else begin  temp := (l + r) div 2;  if(isi[temp] > v) then begin  X := X(l, temp, v);  end else  X := X(temp + 1, r, v);  end;  end;  var  hasil,a,b,c : integer;  begin  read(a);  read(b);  read(c);  hasil:=x(a,b,c);  write(hasil);  readln;  readln;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 1 |

12. No. 37

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| Kode Program Dalam Soal : |
| var  daebak : array [0..2015] of char;  w, x, y, z, i : integer;  procedure saranghae(x : integer; len : integer);  var  i : integer;  store : char;  begin  store := daebak[x];  for i := len-1 downto 0 do begin  if (i = 0) then  daebak[x+((i+1) mod len)] := store  else  daebak[x+((i+1) mod len)] := daebak[x+i];  end;  end;    procedure anyeong(arr\_sz : integer; part\_sz : integer);  var  i : integer;  begin  for i:= 0 to (arr\_sz div part\_sz)-1 do  begin  saranghae(i \* part\_sz, part\_sz);  end;  end;    procedure oppa(n : integer);  var  i : integer;  begin  for i := 0 to n-1 do begin  if(i mod 4 = 0) then daebak[i] := 'T'  else if(i mod 4 = 1) then daebak[i] := 'O'  else if(i mod 4 = 2) then daebak[i] := 'K'  else daebak[i] := 'I';  end;  end;    begin  readln(w, x, y, z);  oppa(w);  for i := 1 to x do  anyeong(y, z);  for i := 0 to w-1 do  begin  if(i mod 4 = 0) and (i <> 0) then write(“ “);  write(daebak[i]);  end;  writeln;  end. |
| Kode Program Dimodifikasi : |
| uses crt;  var  daebak : array [0..2015] of char;  w, x, y, z, i : integer;  procedure saranghae(x : integer; len : integer);  var  i : integer;  store : char;  begin  store := daebak[x];  for i := len-1 downto 0 do begin  if (i = 0) then  daebak[x+((i+1) mod len)] := store  else  daebak[x+((i+1) mod len)] := daebak[x+i];  end;  end;    procedure anyeong(arr\_sz : integer; part\_sz : integer);  var  i : integer;  begin  for i:= 0 to (arr\_sz div part\_sz)-1 do  begin  saranghae(i \* part\_sz, part\_sz);  end;  end;    procedure oppa(n : integer);  var  i : integer;  begin  for i := 0 to n-1 do begin  if(i mod 4 = 0) then daebak[i] := 'T'  else if(i mod 4 = 1) then daebak[i] := 'O'  else if(i mod 4 = 2) then daebak[i] := 'K'  else daebak[i] := 'I';  end;  end;    begin  readln(w, x, y, z);  oppa(w);  for i := 1 to x do  anyeong(y, z);  for i := 0 to w-1 do  begin  if(i mod 4 = 0) and (i <> 0) then write(“ “);  write(daebak[i]);  end;  writeln;  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| KITO KITO KITO TOKI |

13. No. 38

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| Kode Program Dalam Soal : |
| var  daebak : array [0..2015] of char;  w, x, y, z, i : integer;  procedure saranghae(x : integer; len : integer);  var  i : integer;  store : char;  begin  store := daebak[x];  for i := len-1 downto 0 do begin  if (i = 0) then  daebak[x+((i+1) mod len)] := store  else  daebak[x+((i+1) mod len)] := daebak[x+i];  end;  end;    procedure anyeong(arr\_sz : integer; part\_sz : integer);  var  i : integer;  begin  for i:= 0 to (arr\_sz div part\_sz)-1 do  begin  saranghae(i \* part\_sz, part\_sz);  end;  end;    procedure oppa(n : integer);  var  i : integer;  begin  for i := 0 to n-1 do begin  if(i mod 4 = 0) then daebak[i] := 'T'  else if(i mod 4 = 1) then daebak[i] := 'O'  else if(i mod 4 = 2) then daebak[i] := 'K'  else daebak[i] := 'I';  end;  end;    begin  readln(w, x, y, z);  oppa(w);  for i := 1 to x do  anyeong(y, z);  for i := 0 to w-1 do  begin  if(i mod 4 = 0) and (i <> 0) then write(“ “);  write(daebak[i]);  end;  writeln;  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  var  daebak : array [0..2015] of char;  w, x, y, z, i : integer;  procedure saranghae(x : integer; len : integer);  var  i : integer;  store : char;  begin  store := daebak[x];  for i := len-1 downto 0 do begin  if (i = 0) then  daebak[x+((i+1) mod len)] := store  else  daebak[x+((i+1) mod len)] := daebak[x+i];  end;  end;    procedure anyeong(arr\_sz : integer; part\_sz : integer);  var  i : integer;  begin  for i:= 0 to (arr\_sz div part\_sz)-1 do  begin  saranghae(i \* part\_sz, part\_sz);  end;  end;    procedure oppa(n : integer);  var  i : integer;  begin  for i := 0 to n-1 do begin  if(i mod 4 = 0) then daebak[i] := 'T'  else if(i mod 4 = 1) then daebak[i] := 'O'  else if(i mod 4 = 2) then daebak[i] := 'K'  else daebak[i] := 'I';  end;  end;    begin  readln(w, x, y, z);  oppa(w);  for i := 1 to x do  anyeong(y, z);  for i := 0 to w-1 do  begin  if(i mod 4 = 0) and (i <> 0) then write(“ “);  write(daebak[i]);  end;  writeln;  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| OKIT TKIT OOKI TOKI |

14. No. 39

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| Kode Program Dalam Soal : |
| Var  s, t: string;  x, l, r, k: byte;  temp: char;  begin  readln(s);  k := 0;  x := 0;  l := 1;  r := length(s);  t := '';  while (l <= r) do  begin  if (k mod 2) = 0 then  begin  temp := s[r];  r := r – 1;  end  else  begin  temp := s[l];  l := l + 1;  end;  k := k + 1;  // ord(c) adalah fungsi untuk mengubah  // karakter c menjadi nilai pada ASCII  // ord('A') = 65  // ord('B') = 66  // ...  // ord('Z') = 90  x := (x + ord(temp) - ord('A')) mod 26;  t := t + chr(x + ord('A'));  end;  writeln(t);  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  Var  s, t: string;  x, l, r, k: byte;  temp: char;  begin  readln(s);  k := 0;  x := 0;  l := 1;  r := length(s);  t := '';  while (l <= r) do  begin  if (k mod 2) = 0 then  begin  temp := s[r];  r := r – 1;  end  else  begin  temp := s[l];  l := l + 1;  end;  k := k + 1;  // ord(c) adalah fungsi untuk mengubah  // karakter c menjadi nilai pada ASCII  // ord('A') = 65  // ord('B') = 66  // ...  // ord('Z') = 90  x := (x + ord(temp) - ord('A')) mod 26;  t := t + chr(x + ord('A'));  end;  writeln(t);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| EMOLGENOS |

15. No. 40

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| Kode Program Dalam Soal : |
| Var  s, t: string;  x, l, r, k: byte;  temp: char;  begin  readln(s);  k := 0;  x := 0;  l := 1;  r := length(s);  t := '';  while (l <= r) do  begin  if (k mod 2) = 0 then  begin  temp := s[r];  r := r – 1;  end  else  begin  temp := s[l];  l := l + 1;  end;  k := k + 1;  // ord(c) adalah fungsi untuk mengubah  // karakter c menjadi nilai pada ASCII  // ord('A') = 65  // ord('B') = 66  // ...  // ord('Z') = 90  x := (x + ord(temp) - ord('A')) mod 26;  t := t + chr(x + ord('A'));  end;  writeln(t);  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  Var  s, t: string;  x, l, r, k: byte;  temp: char;  begin  readln(s);  k := 0;  x := 0;  l := 1;  r := length(s);  t := '';  while (l <= r) do  begin  if (k mod 2) = 0 then  begin  temp := s[r];  r := r – 1;  end  else  begin  temp := s[l];  l := l + 1;  end;  k := k + 1;  // ord(c) adalah fungsi untuk mengubah  // karakter c menjadi nilai pada ASCII  // ord('A') = 65  // ord('B') = 66  // ...  // ord('Z') = 90  x := (x + ord(temp) - ord('A')) mod 26;  t := t + chr(x + ord('A'));  end;  writeln(t);  readkey;  end. |
| Input yang harus diberikan agar output “RJJJVDPII” |
| SAITAMMAR |

16. No. 41

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| Kode Program Dalam Soal : |
| Var  Q : array[1..15] of integer = (1,5,2,3,4,6,2,7,3,4,6,0,-1,2,3);  P : array[0..15] of integer;  i, a, b,total : integer;  begin  P[0] := 0;  for i := 1 to 15 do begin  P[i] := P[i-1] + Q[i];  end;    readln (a,b);  total := 0; // baris-1  for i := a to b do begin // baris-2  total := total + Q[i]; // baris-3  end; // baris-4  writeln(total);  end. |
| Kode Program Dimodifikasi : |
| uses crt;  Var  Q : array[1..15] of integer ;  P : array[0..15] of integer;  i, a, b,total : integer;  begin  Q[1]:=1;  Q[2]:=5;  Q[3]:=2;  Q[4]:=3;  Q[5]:=4;  Q[6]:=6;  Q[7]:=2;  Q[8]:=7;  Q[9]:=3;  Q[10]:=4;  Q[11]:=6;  Q[12]:=0;  Q[13]:=-1;  Q[14]:=2;  Q[15]:=3;  P[0] := 0;  for i := 1 to 15 do begin  P[i] := P[i-1] + Q[i];  end;  readln (a,b);  total := 0; // baris-1  for i := a to b do begin // baris-2  total := total + Q[i]; // baris-3  end; // baris-4  writeln(total);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 22 |

17. No. 42

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| Kode Program Dalam Soal : |
| Var  Q : array[1..15] of integer = (1,5,2,3,4,6,2,7,3,4,6,0,-1,2,3);  P : array[0..15] of integer;  i, a, b,total : integer;  begin  P[0] := 0;  for i := 1 to 15 do begin  P[i] := P[i-1] + Q[i];  end;    readln (a,b);  total := 0; // baris-1  for i := a to b do begin // baris-2  total := total + Q[i]; // baris-3  end; // baris-4  writeln(total);  end. |
| Kode Program Dimodifikasi : |
| uses crt;  Var  Q : array[1..15] of integer ;  P : array[0..15] of integer;  i, a, b,total : integer;  begin  Q[1]:=1;  Q[2]:=5;  Q[3]:=2;  Q[4]:=3;  Q[5]:=4;  Q[6]:=6;  Q[7]:=2;  Q[8]:=7;  Q[9]:=3;  Q[10]:=4;  Q[11]:=6;  Q[12]:=0;  Q[13]:=-1;  Q[14]:=2;  Q[15]:=3;  P[0] := 0;  for i := 1 to 15 do begin  P[i] := P[i-1] + Q[i];  end;  readln (a,b);  total := 0; // baris-1  for i := a to b do begin // baris-2  total := total + Q[i]; // baris-3  end; // baris-4  writeln(total);  readkey;  end. |
| Rumus Dari Kode Program Yang Dimodifikasi : |
| Total := P[b]-P[a-1] |

18. No. 43

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| Kode Program Dalam Soal : |
| var  isi : array[1..10] of integer;  i : integer;  procedure Whatsup(l, r : integer);  var  X : integer;  begin  X := isi[l];  isi[l] := isi[r];  isi[r] := X;  end;  procedure naoooon(l, r : integer);  var  ini : integer;  kiri, kanan : integer;  begin  if(l < r) then begin  kiri := l;  kanan := r;  ini := isi[(kiri + kanan) div 2];  while(kiri < kanan) do begin  while(isi[kiri] > ini) do kiri := kiri + 1;  while(isi[kanan] < ini) do kanan := kanan - 1;  if(kiri < kanan) then Whatsup(kiri, kanan);  end;  naoooon(l, kanan);  naoooon(kanan+1, r);  end;  end;    begin  isi[1] := 5;  isi[2] := 10;  isi[3] := 18;  isi[4] := 1;  isi[5] := 7;  isi[6] := 9;  isi[7] := 3;  isi[8] := 8;  isi[9] := 100;  isi[10] := 29;  naoooon(1,10);  for i := 1 to 9 do  write(isi[i], ' ');  writeln(isi[10]);  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  var  isi : array[1..10] of integer;  i : integer;  procedure Whatsup(l, r : integer);  var  X : integer;  begin  X := isi[l];  isi[l] := isi[r];  isi[r] := X;  end;  procedure naoooon(l, r : integer);  var  ini : integer;  kiri, kanan : integer;  begin  if(l < r) then begin  kiri := l;  kanan := r;  ini := isi[(kiri + kanan) div 2];  while(kiri < kanan) do begin  while(isi[kiri] > ini) do kiri := kiri + 1;  while(isi[kanan] < ini) do kanan := kanan - 1;  if(kiri < kanan) then Whatsup(kiri, kanan);  end;  naoooon(l, kanan);  naoooon(kanan+1, r);  end;  end;    begin  isi[1] := 5;  isi[2] := 10;  isi[3] := 18;  isi[4] := 1;  isi[5] := 7;  isi[6] := 9;  isi[7] := 3;  isi[8] := 8;  isi[9] := 100;  isi[10] := 29;  naoooon(1,10);  for i := 1 to 9 do  write(isi[i], ' ');  writeln(isi[10]);  readln;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 100 29 18 10 9 8 7 5 3 1 |

19. No. 44

|  |
| --- |
| Kode Program Dalam Soal : |
| var  isi : array[1..10] of integer;  i : integer;  procedure Whatsup(l, r : integer);  var  X : integer;  begin  X := isi[l];  isi[l] := isi[r];  isi[r] := X;  end;  procedure naoooon(l, r : integer);  var  ini : integer;  kiri, kanan : integer;  begin  if(l < r) then begin  kiri := l;  kanan := r;  ini := isi[(kiri + kanan) div 2];  while(kiri < kanan) do begin  while(isi[kiri] > ini) do kiri := kiri + 1;  while(isi[kanan] < ini) do kanan := kanan - 1;  if(kiri < kanan) then Whatsup(kiri, kanan);  end;  naoooon(l, kanan);  naoooon(kanan+1, r);  end;  end;    begin  isi[1] := 5;  isi[2] := 10;  isi[3] := 18;  isi[4] := 1;  isi[5] := 7;  isi[6] := 9;  isi[7] := 3;  isi[8] := 8;  isi[9] := 100;  isi[10] := 29;  naoooon(1,10);  for i := 1 to 9 do  write(isi[i], ' ');  writeln(isi[10]);  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  var  isi : array[1..10] of integer;  i : integer;  procedure Whatsup(l, r : integer);  var  X : integer;  begin  X := isi[l];  isi[l] := isi[r];  isi[r] := X;  end;  procedure naoooon(l, r : integer);  var  ini : integer;  kiri, kanan : integer;  begin  if(l < r) then begin  kiri := l;  kanan := r;  ini := isi[(kiri + kanan) div 2];  while(kiri < kanan) do begin  while(isi[kiri] > ini) do kiri := kiri + 1;  while(isi[kanan] < ini) do kanan := kanan - 1;  if(kiri < kanan) then Whatsup(kiri, kanan);  end;  naoooon(l, kanan);  naoooon(kanan+1, r);  end;  end;    begin  isi[1] := 5;  isi[2] := 10;  isi[3] := 18;  isi[4] := 1;  isi[5] := 7;  isi[6] := 9;  isi[7] := 3;  isi[8] := 8;  isi[9] := 100;  isi[10] := 29;  naoooon(3,6);  for i := 1 to 9 do  write(isi[i], ' ');  writeln(isi[10]);  readln;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 5 10 18 9 7 1 3 8 100 29 |

20. No. 45

|  |
| --- |
| Kode Program Dalam Soal : |
| Var  ar : array[1..5] of integer;  i : integer;  procedure S(a,b : integer);  var  temp : integer;  begin  temp := ar[a];  ar[a] := ar[b];  ar[b] := temp;  end;    begin  for i := 1 to 5 do read(ar[i]);  S(3,4);  S(4,1);  S(5,2);  S(5,1);  for i := 1 to 4 do begin  write(ar[i], ' ');  end;  writeln(ar[5]);  end. |
| Kode Program Dimodifikasi : |
| Uses crt;  var  ar : array[1..5] of integer;  i : integer;  procedure S(a,b : integer);  var  temp : integer;  begin  temp := ar[a];  ar[a] := ar[b];  ar[b] := temp;  end;    begin  for i := 1 to 5 do read(ar[i]);  S(3,4);  S(4,1);  S(5,2);  S(5,1);  for i := 1 to 4 do begin  write(ar[i], ' ');  end;  writeln(ar[5]);  readkey;  end. |
| Input yang dapat mengeluarkan angka 1 2 3 4 5 |
| 4 1 5 3 2 |

21. No. 46

|  |
| --- |
| Kode Program Dalam Soal : |
| var sum, i, j, n, c : integer;  begin  readln(n);  sum := 0;  for i := 2 to n do  begin  c := 0;  j := i;  while (j > 0) do  begin  if (j mod 2 = 1) then c := c + 1;  j := j div 2;  end;  if (c = 1) then sum := sum + 1;  end;  writeln(sum);  end. |
| Kode Program Dimodifikasi : |
| uses crt;  var  sum, i, j, n, c : integer;  begin  readln(n);  sum:=0;  for i:=2 to n do  begin  c:=0;  j:=i;  while (j>0) do  begin  if (j mod 2 = 1) then c:=c+1;  j:=j div 2;  end;  if (c=1) then sum:=sum+1;  end;  writeln(sum);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| 10 |

22. No. 47

|  |
| --- |
| Soal : |
| Tahukah kamu bahwa grid berukuran 3x4 sebagai berikut memiliki 20 persegi (segi empat sama sisi)?   * Diberikan N and M, tentukan banyaknya persegi yang terdapat pada grid berukuran NxM. * **Batasan :** 1 ≤ N,M ≤ 100.000 * **Format Input :** N M * **Format Output :** Sebuah bilangan yang menyatakan banyaknya persegi yang terdapat pada grid berukuran NxM. |
| Kode Program Dimodifikasi : |
| uses crt;  var  n,m : longint;  jml : int64;  begin  read(n,m);  while (n>0) or (m>0) do  begin  jml:=jml+n\*m;  dec(n);dec(m);  end;  writeln(jml);  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| |  |  | | --- | --- | | INPUT | OUTPUT | | 3 4 | 20 | | 4 3 | 20 | | 1 10 | 10 | | 5 5 | 55 |   CONTOH : |

23. No. 48

|  |
| --- |
| Soal : |
| Terdapat suatu string dengan panjang N. Anda harus menentukan apakah string tersebut merupakan palindrom atau bukan. Palindrom adalah sebuah string yang jika dibaca dari kiri ke kanan akan sama dengan jika dibaca dari kanan ke kiri. Pada soal ini, String hanya berisi huruf alphabet kecil tanpa spasi. Jika string tersebut adalah sebuah palindrom, maka outputkan “PALINDROM” (tanpa tanda petik). Jika string tersebut bukan palindrom, maka outputkan “BUKAN PALINDROM” (tanpa tanda petik).   * **Format Masukan :** Baris 1 : sebuah bilangan N   Baris 2 : sebuah string dengan panjang N.  String dijamin memiliki panjang N.   * **Format Keluaran :** Output sesuai dengan program di atas. * **Batasan:** 1 ≤ N ≤ 100   Setiap karakter pada string merupakan huruf alphabet kecil. |
| Kode Program Dimodifikasi : |
| uses crt;  var  n,i : integer;  s,k : string;  begin  k:='';  readln(s);  n:=length(s);  for i:=n downto 1 do  begin  k:=k+s[i];  end;  if s=k then writeln('PALINDROM')  else writeln('Bukan PALINDROM');  readkey;  end. |
| Output Dari Kode Program Yang Dimodifikasi : |
| |  |  | | --- | --- | | **Input** | **Output** | | 4  abba | PALINDROM | | 4  abbb | BUKAN PALINDROM | | 1  a | PALINDROM | | 9  kasurusak | PALINDROM | | 19  ospduaribuenambelas | BUKAN PALINDROM |   CONTOH : |