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| Nama | Agung Denis Gunawan |
| NIM | C1A160049 |
| OSP | 2014 |

1. No. 26

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| Kode Program Dalam Soal |
| Var  i, j, total : integer;  begin  total :=0;  for i := 1 to 100 do  for j := 1 to 100 do  total := total + i – j;  writeln(total);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  i, j, total : integer;  begin  total := 0;  for i := 1 to 100 do  for j := 1 to 100 do  total := total + i - j;  writeln(‘total : ‘ ,total);  readkey;  end. |
| Output program dimodifikasi |
| total : 0 |

1. No. 27

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| Kode Program dalam Soal |
| function cimi(x,y:integer):integer;  begin  if (x + y = 0) then begin  cimi := 0;  end else if (x > y) then begin  cimi := y + cimi(x-1,y);  end else begin  cimi := x + cimi(x,y-1);  end;  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function cimi(x,y:integer):integer;  begin  if (x + y = 0) then begin  cimi := 0;  end else if (x > y) then begin  cimi := y + cimi(x-1,y);  end else begin  cimi := x + cimi(x,y-1);  end;  end;  begin  writeln(cimi(5,7));  readkey;  end. |
| Output |
| 35 |

1. No. 28

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| Kode Program dalam Soal |
| function cimi(x,y:integer):integer;  begin  if (x + y = 0) then begin  cimi := 0;  end else if (x > y) then begin  cimi := y + cimi(x-1,y);  end else begin  cimi := x + cimi(x,y-1);  end;  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function cimi(x,y:integer):integer;  begin  if (x + y = 0) then begin  cimi := 0;  end else if (x > y) then begin  cimi := y + cimi(x-1,y);  end else begin  cimi := x + cimi(x,y-1);  end;  end;  begin  writeln(cimi(29,13));  readkey;  end. |
| Output |
| 377 |

1. No. 29

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| Kode Program dalam Soal |
| function blossom(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + i;  end;  blossom := ans;  end;  function bubble(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + blossom(i);  end;  bubble := ans;  end;  function buttercup(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + bubble(i);  end;  buttercup := ans;  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function blossom(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + i;  end;  blossom := ans;  writeln('blossom : ',blossom);  end;  function bubble(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + blossom(i);  end;  bubble := ans;  writeln('bubble : ',bubble);  end;  function buttercup(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + bubble(i);  end;  buttercup := ans;  writeln('buttercup : ',buttercup);  end;  begin  writeln(buttercup(3));  readkey;  end. |
| output |
| blossom : 1  bubble : 1  blossom : 1  blossom : 3  bubble : 4  blossom : 1  blossom : 3  blossom : 6  bubble : 10  buttercup : 15  15 |

1. No. 30

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| --- |
| Kode Program dalam Soal |
| function blossom(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + i;  end;  blossom := ans;  end;  function bubble(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + blossom(i);  end;  bubble := ans;  end;  function buttercup(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + bubble(i);  end;  buttercup := ans;  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function blossom(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + i;  end;  blossom := ans;  writeln('blossom : ',blossom);  end;  function bubble(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + blossom(i);  end;  bubble := ans;  writeln('bubble : ',bubble);  end;  function buttercup(x : integer) : integer;  var  ans,i : integer;  begin  ans := 0;  for i := 1 to x do begin  ans := ans + bubble(i);  end;  buttercup := ans;  writeln('buttercup : ',buttercup);  end;  begin  writeln(buttercup(6));  readkey;  end. |
| output |
| blossom : 1  bubble : 1  blossom : 1  blossom : 3  bubble : 4  blossom : 1  blossom : 3  blossom : 6  bubble : 10  blossom : 1  blossom : 3  blossom : 6  blossom : 10  bubble : 20  blossom : 1  blossom : 3  blossom : 6  blossom : 10  blossom : 15  bubble : 35  blossom : 1  blossom : 3  blossom : 6  blossom : 10  blossom : 15  blossom : 21  bubble : 56  buttercup : 126  126 |

1. No. 31

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| --- |
| Kode Program dalam Soal |
| function kandang(ayam, kambing:integer):integer;  var  rumput, sapi: integer;  begin  rumput:=(kambing-ayam) div 3;  sapi:=rumput\*2;  if ayam > kambing then  kandang:= 0  else if (kambing-ayam < 3) then  kandang:= 2\*(kambing-ayam)  else  kandang:= kandang(ayam,ayam+rumput)+  kandang(ayam+rumput,ayam+sapi)+  kandang(ayam+sapi,kambing);  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function kandang(ayam, kambing:integer):integer;  var  rumput, sapi: integer;  begin  rumput:=(kambing-ayam) div 3;  sapi:=rumput\*2;  if ayam > kambing then  kandang:= 0  else if (kambing-ayam < 3) then  kandang:= 2\*(kambing-ayam)  else  kandang:= kandang(ayam,ayam+rumput)+  kandang(ayam+rumput,ayam+sapi)+  kandang(ayam+sapi,kambing);  end;  begin  writeln('kandang : ',kandang(2,6));  readkey;  end. |
| Output |
| kandang : 8 |

1. No. 32

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| --- |
| Kode Program dalam Soal |
| function kandang(ayam, kambing:integer):integer;  var  rumput, sapi: integer;  begin  rumput:=(kambing-ayam) div 3;  sapi:=rumput\*2;  if ayam > kambing then  kandang:= 0  else if (kambing-ayam < 3) then  kandang:= 2\*(kambing-ayam)  else  kandang:= kandang(ayam,ayam+rumput)+  kandang(ayam+rumput,ayam+sapi)+  kandang(ayam+sapi,kambing);  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function kandang(ayam, kambing:integer):integer;  var  rumput, sapi: integer;  begin  rumput:=(kambing-ayam) div 3;  sapi:=rumput\*2;  if ayam > kambing then  kandang:= 0  else if (kambing-ayam < 3) then  kandang:= 2\*(kambing-ayam)  else  kandang:= kandang(ayam,ayam+rumput)+  kandang(ayam+rumput,ayam+sapi)+  kandang(ayam+sapi,kambing);  end;  begin  writeln('kandang : ',kandang(2014,3021));  readkey;  end. |
| Output |
| kandang : 2014 |

1. No. 33

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| --- |
| Kode Program dalam Soal |
| var  i,j,x,baa:longint;  begin  x:=0;  baa:=10;  for i:=1 to baa do begin  for j:= 1 to i do begin  if i mod 2=1 then  x:=x-j  else  x:=x+j;  end;  end;  writeln(x);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  i,j,x,baa:longint;  begin  x:=0;  baa:=10;  for i:=1 to baa do begin  for j:= 1 to i do begin  if i mod 2=1 then  x:=x-j  else  x:=x+j;  end;  end;  writeln(x);  readkey;  end. |
| Output |
| 30 |

1. No. 34

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| --- |
| Kode Program dalam Soal |
| var  i,j,x,baa:longint;  begin  x:=0;  baa:=10;  for i:=1 to baa do begin  for j:= 1 to i do begin  if i mod 2=1 then  x:=x-j  else  x:=x+j;  end;  end;  writeln(x);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  i,j,x,baa:longint;  begin  x:=0;  baa:=1000;  for i:=1 to baa do begin  for j:= 1 to i do begin  if i mod 2=1 then  x:=x-j  else  x:=x+j;  end;  end;  writeln(x);  readkey;  end. |
| Output |
| 250500 |

1. No. 35

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| --- |
| Kode Program dalam Soal |
| var x,n,lala,lili,i:integer;  begin  x:=7;  n:=x;  lala:=10;  lili:=12345;  for i:=0 to lili do begin  x:=(x\*n) mod lala;  end;  writeln(x);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var x,n,lala,lili,i:integer;  begin  x:=7;  n:=x;  lala:=10;  lili:=12345;  for i:=0 to lili do begin  x:=(x\*n) mod lala;  end;  writeln(x);  readkey;  end. |
| Output |
| 3 |

1. No. 36

|  |
| --- |
| Kode Program dalam Soal |
| var x,n,lala,lili,i:integer;  begin  x:=7;  n:=x;  lala:=10;  lili:=12345;  for i:=0 to lili do begin  x:=(x\*n) mod lala;  end;  writeln(x);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  x,n,lala,lili,i:integer;  begin  x:=9;  n:=x;  lala:=100;  lili:=12345;  for i:=0 to lili do begin  x:=(x\*n) mod lala;  end;  writeln(x);  readkey;  end. |
| Output |
| 69 |

1. No. 37

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| --- |
| Kode Program dalam Soal |
| var  x:integer;  function lala(lili:integer):integer;  var  abc,i:integer;  begin  abc:=0;  if (lili mod 5 = 0) then  begin  for i:=1 to 7 do  abc:= abc + lala(lili div 5);  end else if (lili mod 3 = 0) then  begin  for i:=1 to 5 do  abc:= abc + lala(lili div 3);  end else if(lili mod 2 = 0) then  begin  abc:= lala(lili div 2) + lala(lili div 2);  end;  if (lili=1) then lala:=1  else  lala:=abc; end;  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  x:integer;  function lala(lili:integer):integer;  var  abc,i:integer;  begin  abc:=0;  if (lili mod 5 = 0) then  begin  for i:=1 to 7 do  abc:= abc + lala(lili div 5);  end else if (lili mod 3 = 0) then  begin  for i:=1 to 5 do  abc:= abc + lala(lili div 3);  end else if(lili mod 2 = 0) then  begin  abc:= lala(lili div 2) + lala(lili div 2);  end;  if (lili=1) then lala:=1  else  lala:=abc; end;  begin  readln(x); (\*\* 25 *\*\*)*  writeln(lala(x));  readkey;  end. |
| Output |
| 49 |

1. No. 38

|  |
| --- |
| Kode Program dalam Soal |
| var  x:integer;  function lala(lili:integer):integer;  var  abc,i:integer;  begin  abc:=0;  if (lili mod 5 = 0) then  begin  for i:=1 to 7 do  abc:= abc + lala(lili div 5);  end else if (lili mod 3 = 0) then  begin  for i:=1 to 5 do  abc:= abc + lala(lili div 3);  end else if(lili mod 2 = 0) then  begin  abc:= lala(lili div 2) + lala(lili div 2);  end;  if (lili=1) then lala:=1  else  lala:=abc; end;  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  x:integer;  function lala(lili:integer):integer;  var  abc,i:integer;  begin  abc:=0;  if (lili mod 5 = 0) then  begin  for i:=1 to 7 do  abc:= abc + lala(lili div 5);  end else if (lili mod 3 = 0) then  begin  for i:=1 to 5 do  abc:= abc + lala(lili div 3);  end else if(lili mod 2 = 0) then  begin  abc:= lala(lili div 2) + lala(lili div 2);  end;  if (lili=1) then lala:=1  else  lala:=abc; end;  begin  readln(x); (\*\* 35 *\*\*)*  writeln(lala(x));  readkey;  end. |
| Output |
| 0 |

1. No. 39

|  |
| --- |
| Kode Program dalam Soal |
| var  aku,sayang,kamu:integer;  begin  aku:=1;  sayang:=0;  kamu:=1;  while (sayang<=100) do  begin  aku:=aku+kamu;  inc(sayang);  inc(kamu); inc(kamu);  end;  writeln(aku);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  aku,sayang,kamu:integer;  begin  aku:=1;  sayang:=0;  kamu:=1;  while (sayang<=100) do  begin  aku:=aku+kamu;  inc(sayang);  inc(kamu); inc(kamu);  end;  writeln(aku);  readkey;  end. |
| Output |
| 10202 |

1. No. 40

|  |
| --- |
| Kode Program dalam Soal |
| var  i,j:integer;  lala:boolean;  begin  for i:=2 to 100 do  begin  lala:=true;  j:=2;  while (j\*j<=i) do  begin  if (i mod j = 0) then lala:=false;  inc(j);  end;  if (lala=true) then    writeln(i);  end;  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  i,j:integer;  lala:boolean;  begin  for i:=2 to 100 do  begin  lala:=true;  j:=2;  while (j\*j<=i) do  begin  if (i mod j = 0) then lala:=false;  inc(j);  end;  if (lala=true) then  i = i + i ;  writeln(i);  end;  readkey;  end. |
| output |
| 4  10  22  46  94  95  96  194 |

1. No. 41

|  |
| --- |
| Kode Program dalam Soal |
| function iseng(x, y:integer):integer;  begin  if (y <= 0) then  iseng := x;  else if (y mod 2 = 0) then  iseng := iseng(x-y, y-1)  else  iseng := iseng(x+2\*y, y-1);  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function iseng(x, y:integer):integer;  begin  if (y <= 0) then  iseng := x;  else if (y mod 2 = 0) then  iseng := iseng(x-y, y-1)  else  iseng := iseng(x+2\*y, y-1);  end;  begin  writeln(iseng(500,100));  readkey;  end. |
| Output |
| 2950 |

1. No.42

|  |
| --- |
| Kode Program dalam Soal |
| begin  count := 0;  for i := 1 to n do  begin  x := i;  while (x > 0) do begin  if (x mod 10 = 1) then  inc(count);  x := x div 10;  end;  end;  writeln(count); |
| Kode Program Dimodifikasi |
| uses wincrt;  var  count,x,i,n : integer;  begin  readln(n);  *(\*\** 12 *\*\*)*  count := 0;  for i := 1 to n do  begin  x := i;  while (x > 0) do begin  if (x mod 10 = 1) then  inc(count);  x := x div 10;  end;  end;  writeln(count);  readkey;  end. |
| Output |
| 5 |

1. No.43

|  |
| --- |
| Kode Program dalam Soal |
| count := 0;  for i := 1 to n do  begin  x := i;  while (x > 0) do begin  if (x mod 10 = 1) then  inc(count);  x := x div 10;  end;  end;  writeln(count); |
| Kode Program Dimodifikasi |
| uses wincrt;  var  count,x,i,n : integer;  begin  readln(n);  *(\*\** 10000 *\*\*)*  count := 0;  for i := 1 to n do  begin  x := i;  while (x > 0) do begin  if (x mod 10 = 1) then  inc(count);  x := x div 10;  end;  end;  writeln(count);  readkey;  end. |
| Output |
| 4001 |

1. No. 48

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| --- |
| Kode Program dalam Soal |
| var  data1 : array[1..10] of integer = (4,11,2,5,1,9,7,5,6,8);  data2,data3 : array[1..10] of integer;  i : integer;  begin  for i:= 1 to 10 do  data2[i] := 1;  for i:= 1 to 10 do  inc(data2[data1[i]]);  for i:= 2 to 10 do  data2[i] := data2[i] + data2[i-1];  for i:= 10 downto 1 do  begin  data3[data2[data1[i]]] := data1[i];  dec(data2[data1[i]]);  end;  for i:= 1 to 10 do  write(data3[i]);  end. |
| Kode Program Dimodifikasi |
| uses wincrt;  var  data1 : array[1..10] of integer;  data2,data3 : array[1..10] of integer;  i : integer;  begin  data1[1] := 4;  data1[2] := 11;  data1[3] := 2;  data1[4] := 5;  data1[5] := 1;  data1[6] := 9;  data1[7] := 7;  data1[8] := 5;  data1[9] := 6;  data1[10] := 8;  for i:= 1 to 10 do  data2[i] := 1;  for i:= 1 to 10 do  inc(data2[data1[i]]);  for i:= 2 to 10 do  data2[i] := data2[i] + data2[i-1];  for i:= 10 downto 1 do  begin  data3[data2[data1[i]]] := data1[i];  dec(data2[data1[i]]);  end;  for i:= 1 to 10 do  write(data3[i]);  readkey;  end. |
| Output |
| 10102004055 |

1. No.44

|  |
| --- |
| Kode Program dalam Soal |
| function gembel(x,y : integer) : integer;  begin  if y=0 then gembel := x  else gembel := gembel(y,x mod y);  end;  function wedhus(n : integer) : integer;  var  pedhet : integer;  begin  pedhet := 0;  for i:= n-1 downto 1 do  begin  if gembel(n,i)=1 then pedhet := pedhet+1;  end;  wedhus := pedhet;  end; |
| Kode Program Dimodifikasi |
| uses wincrt;  function gembel(x,y : integer) : integer;  begin  if y=0 then gembel := x  else gembel := gembel(y,x mod y);  end;  function wedhus(n : integer) : integer;  var  pedhet,i : integer;  begin  pedhet := 0;  for i:= n-1 downto 1 do  begin  if gembel(n,i)=1 then pedhet := pedhet+1;  end;  wedhus := pedhet;  end;  begin  writeln(wedhus(30));  readkey;  end. |
| Output |
| 8 |