uses crt;

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);

readkey;

end.

Berapakah nilai total di akhir program?

**JAWABAN**

**total:=0;**

**For i:=1 to 100;**

**For j:=1 to 100;**

**Total:= total+i-j;**

**Total= 0+1-1=0**

**Total= 0+2-2=0**

**Total= 0+3-3=0**

**Total= 0+4-4=0**

**Total= 0+5-5=0**

**.........................................**

**Sampai Total = 0+100-100 = 0**

**Jadi sisanya adalah 0**

uses crt;

var

a : integer;

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

a := cimi(5,7);

write(a);

readkey;

end.

27.Berapakah nilai dari fungsi cimi(5,7)?

**JAWABAN**

**a:=cimi(5,7);**

**x:=;5**

**y:=7;**

**1. else if(5>7) tidak**

**cimi:= x + cimi ( x,y-1)**

**cimi:= 5 + cimi ( 5,6)**

**2. else if(5>6) tidak**

**cimi:= x + cimi ( x,y-1)**

**cimi:= 5 + cimi ( 5,5)**

**3. else if (5>5) tidak**

**cimi:= x + cimi ( x,y-1)**

**cimi:=5 + cimi (5,4)**

**1. else if (5>4) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 4 + cimi (4,4)**

**4. else if (4>4) tidak**

**cimi:= x + cimi ( x,y-1)**

**cimi:= 4 + cimi (4,3)**

**2. else if (4>3)ya**

**cimi:= y + cimi (x-1,y)**

**cimi:=3 + cimi(3,3)**

**5. else if (3>3) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 3 + cimi (3 ,2)**

**3. else if (3>2) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:=2 + cimi(2,2)**

**6. else if (2>2) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 2 + cimi (2 ,1)**

**4. else if (2>1) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:=1 + cimi(1,1)**

**7. else if (1>1) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 1 + cimi (1 ,0)**

**5. else if (1>0) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 0 + cimi(0,0 )**

**Jadi dapat di simpulkan: Else if tidak = 7**

**Else if ya = 5**

**Maka 5 x 7 = 35**

28.Berapakah nilai dari fungsi cimi(29,13)?

**JAWABAN**

**a:=cimi(29,13);**

**x:=29;**

**y:13;**

**1. else if (29>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(28,13)**

**2. else if (28>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(27,13 )**

**3. else if (27>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(26,13)**

**4. else if (26>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(25,13 )**

**5. else if (25>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(24,13 )**

**6. else if (24>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(23,13 )**

**7. else if (23>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(22,13)**

**8. else if (22>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(21,13)**

**9. else if (21>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(20,13)**

**10. else if (20>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(19,13)**

**11. else if (19>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(18,13)**

**12. else if (18>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi(17,13)**

**13. else if (17>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi (16,13)**

**14. else if (16>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi (15,13)**

**15. else if (15>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi (14,13)**

**16. else if (14>13) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 13 + cimi (13,13)**

**1. else if (13>13) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 13 + cimi (13,12)**

**17. else if (13>12) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 12 + cimi (12,12)**

**2. else if (12>12) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 12 + cimi (12,11)**

**18. else if (12>11) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 11 + cimi (11,11)**

**3. else if (11>11) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 11 + cimi (11,10)**

**19. else if (11>10) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 10 + cimi (10,10)**

**4. else if (10>10) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 10 + cimi (10,9)**

**20. else if (10>9) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 9 + cimi (9,9)**

**5. else if (9>9) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 9 + cimi (9,8)**

**21. else if (9>8) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 8 + cimi (8,8)**

**6. else if (8>8) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 8 + cimi (8,7)**

**22. else if (8>7) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 7 + cimi (7,7)**

**7. else if (7>7) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 7 + cimi (7,6)**

**23. else if (7>6) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 6 + cimi (6,6)**

**8. else if (6>6) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 6 + cimi (6,5)**

**24. else if (6>5) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 5 + cimi (5,5)**

**9. else if (5>5) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 5 + cimi (5,4)**

**25. else if (5>4) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 4 + cimi (4,4)**

**10. else if (4>4) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 4 + cimi (4,3)**

**26. else if (4>3) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 3 + cimi (3,3)**

**11. else if (3>3) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 3 + cimi (3,2)**

**27. else if (3>2) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 2 + cimi (2,2)**

**12. else if (2>2) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 2 + cimi (2,1)**

**28. else if (2>1) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 1 + cimi (1,1)**

**13. else if (1>1) tidak**

**cimi:= x + cimi (x,y-1)**

**cimi:= 1 + cimi (1,0)**

**29. else if (1>0) ya**

**cimi:= y + cimi (x-1,y)**

**cimi:= 0 + cimi (0,0)**

**Jadi dapat di simpulkan: Else if tidak = 13**

**Else if ya = 29**

**Maka 13 x 29 = 377**

uses crt;

var

a : integer;

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 ;

begin

a := buttercup(3);

write(a);

readkey;

end.

29.Berapakah nilai dari buttercup(3)?

**JAWABAN**

**ans = 0**

**x = 3**

**1. for i =1 to 3 do**

**ans = 0 + bubble (i)**

**masuk ke function bubble (i)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + blossom(i);**

**end;**

**bubble := ans**

**masuk ke function blossom (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans := 0 + 1;**

**end;**

**blossom := 1**

**masuk ke function bubble (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**masuk ke function buttercup (1)**

**buttercup = 1**

**2. masuk ke function buttercup (2)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**masuk ke function bubble (1)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := ans**

**masuk ke function bubble (2)**

**ans := 0;**

**for i := 2 to 2 do begin**

**ans:= 1 + blossom(2);**

**end;**

**bubble := ans**

**masuk ke function blossom (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + 1;**

**end;**

**blossom := 1**

**masuk ke function blossom (2)**

**ans := 1;**

**for i := 2 to 2 do begin**

**ans:= 1 + 2;**

**end;**

**blossom := 3**

**masuk ke function bubble (2)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 1 + 3;**

**end;**

**bubble := 4**

**masuk ke function buttercup (2)**

**ans := 1;**

**for i := 2 to 2 do begin**

**ans:= 1 + 4;**

**end;**

**buttercup := 5**

**3. masuk ke function buttercup (3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**buttercup := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + bubble(3);**

**end;**

**buttercup := ans**

**masuk ke function bubble (3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**bubble := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + blossom(3);**

**end;**

**bubble := ans**

**masuk ke function blossom(3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**blossom := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**blossom := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + 3;**

**end;**

**blossom := 6**

**masuk ke function bubble(3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 3;**

**end;**

**bubble := 4**

**ans :=4;**

**for i := 3 to 3 do begin**

**ans:= 4 + 6;**

**end;**

**bubble := 10**

**masuk ke function buttercup (3)**

**ans :=0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**ans :=1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 4;**

**end;**

**buttercup := 5**

**ans :=5;**

**for i := 3 to 3 do begin**

**ans:= 5 + 10;**

**end;**

**buttercup := 15**

**Jadi nilai dari buttercup(3) adalah 15**

30.Berapakah nilai dari buttercup(6)?

JAWABAN

**ans = 0**

**x = 6**

**1. for i =1 to 3 do**

**ans = 0 + bubble (i)**

**masuk ke function bubble (i)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + blossom(i);**

**end;**

**bubble := ans**

**masuk ke function blossom (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans := 0 + 1;**

**end;**

**blossom := 1**

**masuk ke function bubble (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**masuk ke function buttercup (1)**

**buttercup = 1**

**2. masuk ke function buttercup (2)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**masuk ke function bubble (1)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := ans**

**masuk ke function bubble (2)**

**ans := 0;**

**for i := 2 to 2 do begin**

**ans:= 1 + blossom(2);**

**end;**

**bubble := ans**

**masuk ke function blossom (1)**

**ans := 0;**

**for i := 1 to 1 do begin**

**ans:= 0 + 1;**

**end;**

**blossom := 1**

**masuk ke function blossom (2)**

**ans := 1;**

**for i := 2 to 2 do begin**

**ans:= 1 + 2;**

**end;**

**blossom := 3**

**masuk ke function bubble (2)**

**ans := 0;**

**for i := 1 to 2 do begin**

**ans:= 1 + 3;**

**end;**

**bubble := 4**

**masuk ke function buttercup (2)**

**ans := 1;**

**for i := 2 to 2 do begin**

**ans:= 1 + 4;**

**end;**

**buttercup := 5**

**3. masuk ke function buttercup (3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**buttercup := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + bubble(3);**

**end;**

**buttercup := ans**

**masuk ke function bubble (3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**bubble := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + blossom(3);**

**end;**

**bubble := ans**

**masuk ke function blossom(3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**blossom := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 2;**

**end;**

**blossom := 3**

**ans := 3;**

**for i := 3 to 3 do begin**

**ans:= 3 + 3;**

**end;**

**blossom := 6**

**masuk ke function bubble(3)**

**ans := 0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**bubble := 1**

**ans := 1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 3;**

**end;**

**bubble := 4**

**ans :=4;**

**for i := 3 to 3 do begin**

**ans:= 4 + 6;**

**end;**

**bubble := 10**

**masuk ke function buttercup (3)**

**ans :=0;**

**for i := 1 to 3 do begin**

**ans:= 0 + 1;**

**end;**

**buttercup := 1**

**ans :=1;**

**for i := 2 to 3 do begin**

**ans:= 1 + 4;**

**end;**

**buttercup := 5**

**ans :=5;**

**for i := 3 to 3 do begin**

**ans:= 5 + 10;**

**end;**

**buttercup := 15**

**...........................................**

**Coding tersebut akan mengulang sebanyak 6 kali dan akan menghasilkan buttercup(6) = 126**

uses crt;

var

a : integer;

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

a := kandang(2,6);

write(a);

readkey;

end.

31.Berapakah nilai dari kandang(2,6)?

**JAWABAN**

**a := kandang(2,6);**

**ayam = 2**

**kambing = 6**

**rumput = 1**

**sapi = 2**

**if (2>6) tidak**

**kandang(2,3)+kandang(3,4)+kandang(4,6)**

**else if (3-2 < 3)**

**kandang:= 2\*(3-2) = 2**

**else if (4-3< 3)**

**kandang:= 2\*(4-3) = 2**

**else if (6-4< 3)**

**kandang:= 2\*(6-4) = 4**

**Jadi nilai dari kandang(2,6) ? adalah (2+2+ 4)= 8**

32.Berapakah nilai dari kandang(2014,3021)?

**JAWABAN**

**Ayam = 2014**

**Kambing = 3021**

**Rumput = 335**

**Sapi = 670**

**if (2014>3021) tidak**

**kandang(2014,2349) + kandang (2349,2684) +kandang (2684,3021)**

**else if (2349-2014 < 3)**

**kandang:= 2\*(2349-2014) = 670**

**else if (2684-2349 < 3)**

**kandang:= 2\*(2684-2349) = 670**

**else if (3021-2684 < 3)**

**kandang:= 2\*(3021-2684 ) = 674**

**Jadi nilai dari kandang(2014,3021) ? adalah (670+670+674)=2014**

uses crt;

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.

33.Apakah keluaran dari program di atas?

**JAWABAN**

**X = 0**

**Baa = 10**

**For I = 1 to 10**

**For j = 1 to 10**

**If 1 mod 2=1**

**-1**

**If 2 mod 2=1**

**+ 1 +2**

**If 3 mod 2=1**

**-1 -2 -3**

**If 4 mod 2=1**

**+1 +2 +3 +4**

**If 5 mod 2=1**

**-1 -2 -3 -4 -5**

**If 6 mod 2=1**

**+1 +2 +3 +4 +5 +6**

**If 7 mod 2=1**

**-1 -2 -3 -4 -5 -6 -7**

**If 8 mod 2=1**

**+1 +2 +3 +4 +5 +6 +7 +8**

**If 9 mod 2=1**

**-1 -2 -3 -4 -5 -6 -7 -8 -9**

**If 10 mod 2=1**

**+1 +2 +3 +4 +5 +6 +7 +8 +9 +10**

**Jadi dapat disimpulkan hasilnya adalah 2+4+6+8+10 = 30**

34.Jika nilai baa pada awalnya diganti menjadi baa:=1000; maka keluaran program menjadi

**JAWABAN**

**x=0**

**Baa = 1000**

**For I = 1 to 1000**

**For j = 1 to 1000**

**If 1 mod 2=1**

**-1**

**If 2 mod 2=1**

**+ 1 +2**

**If 3 mod 2=1**

**-1 -2 -3**

**If 4 mod 2=1**

**+1 +2 +3 +4**

**If 5 mod 2=1**

**-1 -2 -3 -4 -5**

**If 6 mod 2=1**

**+1+2 +3 +4 +5 +6**

**If 7 mod 2=1**

**-1 -2 -3 -4 -5 -6 -7**

**If 8 mod 2=1**

**+1 +2 +3 +4 +5 +6 +7 +8**

**If 9 mod 2=1**

**-1 -2 -3 -4 -5 -6 -7 -8 -9**

**If 10 mod 2=1**

**+1 +2 +3 +4 +5 +6 +7 +8 +9 +10**

**…………………………………………………………………**

**Sampai If 1000 mod 2=1**

**+1 +2 +3 +4 +5 +6 +7 +8 +9 +10+ . . . +1000**

**Jadi dapat disimpulkan hasilnya adalah 2+4+6+8+10+ . . . +1000 = 250500**

uses crt;

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.

35.Apakah output dari program diatas ?

JAWABAN

x = 7

n = 7

lala = 10

lili = 12345

1. x=(7\*7) mod 10

= 9

2. x=(9\*7) mod 10

= 3

3. x=(3\*7) mod 10

= 7

4. x=(7\*7) mod 10

= 9

5. x=(9\*7) mod 10

=3

i akan mengulang sebanyak lili = 12345 kali, dan akan menghasilkan output 3.

36.Apabila pada baris ke-4 diganti lala:=100; dan x bernilai awal 9, maka, output apa yang akan

Dihasilkan ?

JAWABAN

x = 9

n = 9

lala = 100

lili = 12345

1. x = (9\*9) mod 100

= 81

2 x = (81\*9) mod 100

= 29

3. x = (29\*9) mod 100

= 61

4. x = (61\*9) mod 100

= 49

5. x = (49\*9) mod 100

= 41

6. x = (41\*9) mod 100

= 69

i mengulang sebanyak lili = 12345, dan akan menghasilkan output, 69

uses crt;

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

x:=25;

writeln(lala(x));

readkey;

end.

37.Apakah output dari program diatas ?

JAWABAN

Begin

X:= 25;

Writeln(lala(x));

end;

begin

abc := 0;

if (25 mod 5 = 0) then

begin

for i := 1 to 7 do

abc := abc + lala (5 div 5 );

masuk ke function lala(5)

begin

abc := 0;

if ( 5 mod 5 =) then

begin

for i := 1 to 7 do

abc := abc + lala (5 div 5) lala(1)

masuk ke function lala(1)

begin

abc := 0;

if ( 1 mod 5 = 0) then

begin

for i := 1 to 7 do

else if ( 1 mod 3 = 0) then

begin

for i := 1 to 5 do

else if ( 1 mod 2 = 0) then

Karena nilai lala sudah di ketahui , sekarang tinggal masukan nilainya :

begin

abc := 0;

for i := 1 to 7 do

abc := abc + lala(1)

abc := 0 + 1 = 1

for i := 2 to 7 do

abc := abc + lala(1)

abc := 1 + 1 = 2

for i := 3 to 7 do

abc := abc + lala(1)

abc := 2 + 1 = 3

for i := 4 to 7 do

abc := abc + lala(1)

abc := 3 + 1 = 4

for i := 5 to 7 do

abc := abc + lala(1)

abc := 4 + 1 = 5

for i := 6 to 7 do

abc := abc + lala(1)

abc := 5 + 1 = 6

for i := 7 to 7 do

abc := abc + lala(1)

abc := 6 + 1 = 7

jadi lala 5 = 7

for i := 1 to 7 do

abc := abc + lala (5)

abc := 0 + 7 = 7

for i := 2 to 7 do

abc := abc + lala (5)

abc := 7 + 7 = 14

for i := 3 to 7 do

abc := abc + lala (5)

abc := 14 + 7 = 21

for i := 4 to 7 do

abc := abc + lala (5)

abc := 21 + 7 = 28

for i := 5 to 7 do

abc := abc + lala (5)

abc := 28 + 7 = 35

for i := 6 to 7 do

abc := abc + lala (5)

abc := 35 + 7 = 42

for i := 7 to 7 do

abc := abc + lala (5)

abc := 42 + 7 = 49

masuk ke

if (lili =1 ) then lala := 1 (false)

else (true)

lala := abc

lala := 49

Jadi nilai dari lala(25) = 49

38.Apabila x bernilai 35, maka apakah output yang dihasilkan ?

JAWABAN

uses crt;

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.

39.Apakah output yang akan dihasilkan?

JAWABAN

aku = 1

sayang = 0

kamu = 1

1. (0<= 100) true

aku:=(1+1) = 2

incsayang (1) =1

inckamu(2) =2

inckamu(3)= 3

2. (1 <= 100) true

aku:=+(2+3) = 5

inc sayang(2) = 2

inckamu(4) = 4

inckamu(5)= 5

3. (2 <= 100) true

aku:=+(5+5) = 10

incsayang(3) = 3

inckamu(6) = 6

inckamu(7) =7

4. (3 <= 100) true

aku:=+(10+7) = 17

incsayang(3) = 4

inckamu(8) = 8

inckamu(9) =9

5. (4 <= 100) true

aku:=+(17+9) = 26

Incsayang(4+1)=5

Inckamu(9+1)=10

Inckamu(10+1)=11

6. (5 <= 100) true

aku:=+(11+26) = 37

Incsayang(5+1)=6

Inckamu(11+1)=12

Inckamu(12+1)=13

7. (6 <= 100) true

aku:=+(37+13) = 50

Incsayang(5+1)=6

Inckamu(13+1)=14

Inckamu(14+1)=15

8. (7 <= 100) true

aku:=+(50+15) = 65

Incsayang(6+1)=7

Inckamu(15+1)=16

Inckamu(16+1)=17

9. (8<= 100) true

aku:=(65+17) = 82

Incsayang(7+1)=8

Inckamu(17+1)=18

Inckamu(18+1)=19

10. (9 <= 100) true

Aku:=(82+19) = 101

Incsayang(8+1)=9

Inckamu(19+1)=20

Inckamu(20+1)=21

JADI sayang akan melooping sebanyak 101 kali dan akan menghasilkan = 10202

uses crt;

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 write(i);

readkey;

end;

end.

40.Apabila masing-masing digit dari seluruh output dijumlahkan, berapakah hasil penjumlahan digit-digit tersebut?

uses crt;

var

a : integer;

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

a := iseng(500,100);

write(a);

readkey;

end.

41.Berapakah hasil yang dikembalikan fungsi tersebut pada pemanggilan iseng(500,100)?

1.if (100 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(400,99)

2.else if (99 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(598, 98)

3.else if (98 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(500,97)

4.else if (97 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(694, 96)

5.else if (96 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(598,95)

6.else if (95 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(788,94)

7.else if (94 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(694,93)

8.else if (93 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(880, 92)

9.else if (92 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(788,91)

10.else if (91 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(970, 90)

11.else if (90 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(880,89)

12.else if (89 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1058, 88)

13.else if (88 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(970,87)

14.else if (87 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1144, 86)

15.else if (86 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1058,85)

16.else if (85 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1228, 84)

17.else if (84 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1144,83)

18.else if (83 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1310, 82)

19.else if (82 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1228,81)

20.else if (81 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1390, 80)

21.else if (80 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1310,79)

22.else if (79 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1468, 78)

23.else if (78 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1390,77)

24.else if (77 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1544, 76)

25.else if (76 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1468,75)

26.else if (75 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1618, 74)

27.else if (74 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1544,73)

28.else if (73 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1690, 72)

29.else if (72 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1618,71)

30.else if (71 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1760, 70)

31.else if (70 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1690,69)

32.else if (69 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1828, 68)

33.else if (68 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1760,67)

34.else if (67 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1894, 66)

35.else if (66 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1828,65)

36.else if (65 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(1958, 64)

37.else if (64 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1894,63)

38.else if (63 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2020, 62)

39.else if (62 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(1958,61)

40.else if (61 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2080, 60)

41.else if (60 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2020,59)

42.else if (59 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2138, 58)

43.else if (58 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2080,57)

44.else if (57 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2194, 56)

45.else if (56 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2138,55)

46.else if (55 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2248, 54)

47.else if (54 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2194,53)

48.else if (53 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2300, 52)

49.else if (52 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2248,51)

50.else if (51 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2350, 50)

51.else if (50 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2300,49)

52.else if (49 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2398, 48)

53.else if (48 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2350,47)

54.else if (47 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2444, 46)

55.else if (46 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2398,45)

56.else if (45 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2488, 44)

57.else if (44 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2444,43)

58.else if (43 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2530, 42)

59.else if (42 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2488,41)

60.else if (41 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2406, 40)

61.else if (40 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2366,39)

62.else if (39 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2327, 38)

63.else if (38 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2289,37)

64.else if (37 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2363, 36)

65.else if (36 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2327,35)

66.else if (35 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2397, 34)

67.else if (34 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2363,33)

68.else if (33 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2429, 32)

69.else if (32 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2397,31)

70.else if (31 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2459, 30)

71.else if (30 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2429,29)

72.else if (29 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2487, 28)

73.else if (28 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2459,27)

74.else if (27 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2513, 26)

else if (26 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2487,25)

else if (25 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2537, 24)

else if (24 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2513,23)

else if (23 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2559, 22)

else if (22 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2537,21)

else if (21 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2579, 20)

else if (20 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2559,19)

else if (19 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2597, 18)

else if (18 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2579,17)

else if (17 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2613, 16)

else if (16 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2597,15)

else if (15 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2627, 14)

else if (14 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2613,13)

else if (13 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2639, 12)

else if (12 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2627,11)

else if (11 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2649, 10)

else if (10 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2639,9)

else if (9 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2657, 8)

else if (8 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2649,7)

else if (7 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2663, 6)

else if (6 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2657,5)

else if (5 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2667, 4)

else if (4 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2663,3)

else if (3 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2669, 2)

else if (2 mod 2 = 0) true

iseng := iseng(x-y, y-1)

iseng := iseng(2667,1)

else if (1 mod 2 = 1) false

iseng := iseng(x+2\*y, y-1)

iseng := iseng(2669, 0)

uses crt;

var

a,x,count,i,n : integer;

begin

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.

42.Apakah output dari program apabila n = 12?

JAWABAN

n = 12

count = 0

x = 1 to 10

while (1 > 0) do

if (1 mod 10 = 1) then inc(count)=2

x := 2 div 10 =0

while (2 > 0) do

if (2 mod 10 = 2) then inc(count)

x := 2 div 10 = 0

while (3 > 0) do

if (3 mod 10 = 3) then inc(count)

x := 3 div 10 = 0

while (4 > 0) do

if (4 mod 10 = 4) then inc(count)

x := 4 div 10 = 0

while (5 > 0) do

if (5 mod 10 = 5) then inc(count)

x := 5 div 10 = 0

while (6 > 0) do

if (6 mod 10 = 6) then inc(count)

x := 6 div 10 = 0

while (7 > 0) do

if (7 mod 10 = 7) then inc(count)

x := 7 div 10 = 0

while (8 > 0) do

if (8 mod 10 = 8) then inc(count)

x := 8 div 10 = 0

while (9 > 0) do

if (9 mod 10 = 3) then inc(count)

x := 9 div 10 = 0

while (10 > 0) do

if (10 mod 10 = 0) then inc(count)=1

x := 1 div 10 = 0

while (11 > 0) do

if (11 mod 10 = 1) then inc(count)= 2

x :=2 div 10 = 0

while (12 > 0) do

if (12 mod 10 = 2) then inc(count)

x := 2 div 10 = 0

JADI OUTPUT DARI PROGRAM N =12 ADALAH 5

43.Apakah output dari program apabila n = 10000?

n = 12

count = 0

x = 1 to 10

while (1 > 0) do

if (1 mod 10 = 1) then inc(count)=2

x := 2 div 10 =0

while (2 > 0) do

if (2 mod 10 = 2) then inc(count)

x := 2 div 10 = 0

while (3 > 0) do

if (3 mod 10 = 3) then inc(count)

x := 3 div 10 = 0

while (4 > 0) do

if (4 mod 10 = 4) then inc(count)

x := 4 div 10 = 0

while (5 > 0) do

if (5 mod 10 = 5) then inc(count)

x := 5 div 10 = 0

while (6 > 0) do

if (6 mod 10 = 6) then inc(count)

x := 6 div 10 = 0

while (7 > 0) do

if (7 mod 10 = 7) then inc(count)

x := 7 div 10 = 0

while (8 > 0) do

if (8 mod 10 = 8) then inc(count)

x := 8 div 10 = 0

while (9 > 0) do

if (9 mod 10 = 3) then inc(count)

x := 9 div 10 = 0

while (10 > 0) do

if (10 mod 10 = 0) then inc(count)=1

x := 1 div 10 = 0

while (11 > 0) do

if (11 mod 10 = 1) then inc(count)= 2

x :=2 div 10 = 0

while (12 > 0) do

if (12 mod 10 = 2) then inc(count)

x := 2 div 10 = 0

jadi x akan mengulang sebanyak n= 10000 kali dan akan menghasilkan output = 4001

uses crt;

var

a : integer ;

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 i,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;

begin

a := wedhus(30);

write(a);

readkey;

end.

44.Jika pada program utama terdapat statement untuk mencetak hasil dari wedhus(30), maka

output yang ditampilkan adalah

JAWABAN

1. for i:= 29 downto 1 do

if gembel(30,29)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(29,1);

else gembel := gembel(29,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

2. for i:= 28 downto 1 do

if gembel(30,28)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(28,2);

else gembel := gembel(28,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

3. for i:= 27 downto 1 do

if gembel(30,27)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(27,3);

else gembel := gembel(27,3);

else gembel := gembel(3,0);

if y =0 then gembel := x

if 0 =0 then gembel := 3

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 3 = 1 then pedhet :=

4. for i:= 26 downto 1 do

if gembel(30,26)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(26,4);

else gembel := gembel(26,4);

else gembel := gembel(4,2);

else gembel := gembel(4,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

5. for i:= 25 downto 1 do

if gembel(30,25)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(25,5);

else gembel := gembel(25,5);

else gembel := gembel(5,0);

if y =0 then gembel := x

if 0 =0 then gembel := 5

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 5 = 1 then pedhet :=

6. for i:= 24 downto 1 do

if gembel(30,24)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(24,6);

else gembel := gembel(24,6);

else gembel := gembel(6,0);

if y =0 then gembel := x

if 0 =0 then gembel := 6

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 6 = 1 then pedhet :=

7. for i:= 23 downto 1 do

if gembel(30,23)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(23,7);

else gembel := gembel(23,7);

else gembel := gembel(7,2);

else gembel := gembel(7,2);

else gembel := gembel(2,1);

else gembel := gembel(2,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

8. for i:= 22 downto 1 do

if gembel(30,22)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(22,8);

else gembel := gembel(22,8);

else gembel := gembel(8,6);

else gembel := gembel(8,6);

else gembel := gembel(6,2);

else gembel := gembel(6,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

9. for i:= 21 downto 1 do

if gembel(30,21)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(21,9);

else gembel := gembel(21,9);

else gembel := gembel(9,3);

else gembel := gembel(9,3);

else gembel := gembel(3,0);

if y =0 then gembel := x

if 0 =0 then gembel := 3

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 3 = 1 then pedhet :=

10. for i:= 20 downto 1 do

if gembel(30,20)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(20,10);

else gembel := gembel(20,10);

else gembel := gembel(10,0);

if y =0 then gembel := x

if 0 =0 then gembel := 10

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 10 = 1 then pedhet :=

11. for i:= 19 downto 1 do

if gembel(30,19)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(19,11);

else gembel := gembel(19,11);

else gembel := gembel(11,8);

else gembel := gembel(11,8);

else gembel := gembel(8,3);

else gembel := gembel(8,3);

else gembel := gembel(3,2);

else gembel := gembel(3,2);

else gembel := gembel(2,1);

else gembel := gembel(2,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

12. for i:= 18 downto 1 do

if gembel(30,18)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(18,12);

else gembel := gembel(18,12);

else gembel := gembel(12,6);

else gembel := gembel(12,6);

else gembel := gembel(6,0);

if y =0 then gembel := x

if 0 =0 then gembel := 0

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 6 = 1 then pedhet :=

13. for i:= 17 downto 1 do

if gembel(30,17)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(17,13);

else gembel := gembel(17,13);

else gembel := gembel(13,5);

else gembel := gembel(13,5);

else gembel := gembel(5,3);

else gembel := gembel(5,3);

else gembel := gembel(3,2);

else gembel := gembel(3,2);

else gembel := gembel(2,1);

else gembel := gembel(2,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

14. for i:= 16 downto 1 do

if gembel(30,16)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(16,14);

else gembel := gembel(16,14);

else gembel := gembel(14,2);

else gembel := gembel(14,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

15. for i:= 15 downto 1 do

if gembel(30,15)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(15,0);

if y =0 then gembel := x

if 0 =0 then gembel := 15

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 15 = 1 then pedhet :=

16. for i:= 14 downto 1 do

if gembel(30,14)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(14,2);

else gembel := gembel(14,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

17. for i:= 13 downto 1 do

if gembel(30,13)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(13,4);

else gembel := gembel(13,4);

else gembel := gembel(4,1);

else gembel := gembel(4,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

18. for i:= 12 downto 1 do

if gembel(30,12)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(12,6);

else gembel := gembel(12,6);

else gembel := gembel(6,0);

if y =0 then gembel := x

if 0 =0 then gembel := 6

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 6 = 1 then pedhet :=

19. for i:= 11 downto 1 do

if gembel(30,11)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(11,8);

else gembel := gembel(11,8);

else gembel := gembel(8,3);

else gembel := gembel(8,3);

else gembel := gembel(3,2);

else gembel := gembel(3,2);

else gembel := gembel(2,1);

else gembel := gembel(2,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

20. for i:= 10 downto 1 do

if gembel(30,10)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(10,0);

if y =0 then gembel := x

if 0 =0 then gembel := 10

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 10 = 1 then pedhet :=

21. for i:= 9 downto 1 do

if gembel(30,9)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(9,3);

else gembel := gembel(9,3);

else gembel := gembel(3,0);

if y =0 then gembel := x

if 0 =0 then gembel := 3

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 3 = 1 then pedhet :=

22. for i:= 8 downto 1 do

if gembel(30,8)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(8,6);

else gembel := gembel(8,6);

else gembel := gembel(6,2);

else gembel := gembel(6,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

23. for i:= 7 downto 1 do

if gembel(30,7)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(7,2);

else gembel := gembel(7,2);

else gembel := gembel(2,1);

else gembel := gembel(2,1);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

24. for i:= 6 downto 1 do

if gembel(30,6)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(6,0);

if y =0 then gembel := x

if 0 =0 then gembel := 6

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 6 = 1 then pedhet :=

25. for i:= 5 downto 1 do

if gembel(30,5)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(5,0);

if y =0 then gembel := x

if 0 =0 then gembel := 5

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 5 = 1 then pedhet :=

26. for i:= 4 downto 1 do

if gembel(30,4)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(4,2);

else gembel := gembel(4,2);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

27. for i:= 3 downto 1 do

if gembel(30,3)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(3,0);

if y =0 then gembel := x

if 0 =0 then gembel := 3

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 3 = 1 then pedhet :=

28. for i:= 2 downto 1 do

if gembel(30,2)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(2,0);

if y =0 then gembel := x

if 0 =0 then gembel := 2

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 2 = 1 then pedhet :=

29. for i:= 1 downto 1 do

if gembel(30,1)=1 then pedhet := pedhet+1;

else gembel := gembel(y,x mod y);

else gembel := gembel(1,0);

if y =0 then gembel := x

if 0 =0 then gembel := 1

if gembel(n,i) = 1 then pedhet := pedhet+1;

if gembel 1 = 1 then pedhet := 2

Jadi output yang ditampilkan hasil dari wedhus(30)adalah 8

45.Jika padalah suatu bilangan prima, x adalah bilangan bulat positif, dan pangkat(p,x) adalah

fungsi p pangkat x (px), maka fungsi wedhus(pangkat(p,x)) akan menghasilkan output sesuai

dengan rumus

uses crt;

var i,j,n: integer;

var board: array[0..5] of longint;

function kepo():integer;

var n:integer ;

begin

for i := 5 downto 0 do begin

n := n shl 1;

n := n + (board[i] mod 2);

end;

kepo:=n;

end;

procedure tambah();

begin

for i := 0 to 17 do

for j := 0 to 5 do

board[j] := board[j] + sqr(j+i);

end;

begin

for i := 0 to 5 do

board[i] := i;

tambah();

writeln(kepo());

readkey;

end.

46.Berapakah output yang dihasilkan bila program tersebut dijalankan?

var board:array[0..5] of longint;

begin

for i := 0 to 5 do

board[i] := i;

board akan di isi nilai i yang berulang sebanyak 6 kali

board 0 = 0

board 1 = 1

board 2 = 2

board 3 = 3

board 4 = 4

board 5 = 5

tambah();

masuk ke procedure tambah();

for i:= 0 to 17 do

for j:= 0 to 5 do

board[j] := board[j] + sqr(j+i);

looping i ke-0

board 0 = 0

board 1 = 2

board 2 = 6

board 3 = 12

board 4 = 20

board 5 = 30

looping i ke-1

board 0 = 1

board 1 = 6

board 2 = 15

board 3 = 28

board 4 = 45

board 5 = 66

looping i ke-2

board 0 = 5

board 1 = 15

board 2 = 31

board 3 = 53

board 4 = 81

board 5 = 115

looping i ke-3

board 0 = 14

board 1 = 31

board 2 = 56

board 3 = 89

board 4 = 130

board 5 = 179

looping i ke-4

board 0 = 30

board 1 = 56

board 2 = 92

board 3 = 138

board 4 = 194

board 5 = 260

looping i ke-5

board 0 = 55

board 1 = 92

board 2 = 141

board 3 = 202

board 4 = 275

board 5 = 360

looping i ke-6

board 0 = 91

board 1 = 141

board 2 = 205

board 3 = 283

board 4 = 375

board 5 = 481

looping i ke-7

board 0 = 140

board 1 = 205

board 2 = 286

board 3 = 383

board 4 = 496

board 5 = 625

looping i ke-8

board 0 = 204

board 1 = 286

board 2 = 386

board 3 = 504

board 4 = 640

board 5 = 794

looping i ke-9

board 0 = 285

board 1 = 386

board 2 = 507

board 3 = 648

board 4 = 809

board 5 = 990

looping i ke-10

board 0 = 385

board 1 = 507

board 2 = 651

board 3 = 817

board 4 = 1005

board 5 = 1215

looping i ke-11

board 0 = 506

board 1 = 651

board 2 = 820

board 3 = 1013

board 4 = 1230

board 5 = 1471

looping i ke-12

board 0 = 650

board 1 = 820

board 2 = 1016

board 3 = 1238

board 4 = 1486

board 5 = 1760

looping i ke-13

board 0 = 819

board 1 = 1016

board 2 = 1241

board 3 = 1494

board 4 = 1775

board 5 = 2084

looping i ke-14

board 0 = 1015

board 1 = 1241

board 2 = 1497

board 3 = 1783

board 4 = 2099

board 5 = 2445

looping i ke-15

board 0 = 1240

board 1 = 1497

board 2 = 1786

board 3 = 2107

board 4 = 2460

board 5 = 2845

looping i ke-16

board 0 = 1496

board 1 = 1786

board 2 = 2110

board 3 = 2468

board 4 = 2860

board 5 = 3286

looping i ke-17

board 0 = 1785

board 1 = 2110

board 2 = 2471

board 3 = 2868

board 4 = 3301

board 5 = 3770

masuk ke function kepo()

for i := 5 downto 0 do

n := 0 shl 1

n := 0 + (board[3770] mod 2)

n := 0

for i := 4 downto 0 do

n := 0 shl 1

n := 0 + (board[3770] mod 2)

n := 1

for i := 3 downto 0 do

n := 1 shl 1

n := 2 + (board[3770] mod 2)

n := 2

for i := 2 downto 0 do

n := 2 shl 1

n := 4 + (board[3770] mod 2)

n := 5

for i := 1 downto 0 do

n := 5 shl 1

n := 10 + (board[3770] mod 2)

n := 10

for i := 0 downto 0 do

n := 10 shl 1

n := 20 + (board[3770] mod 2)

n := 21

Maka function kepo() adalah = 21

47.Berapakah nilai board[1] pada akhir program?

Untuk melihat hasilnya bisa di lihat di program nomor 46

Yaitu :

board[1] = 2110

di dapat dari

board 1 = 1

board 1 = 2

board 1 = 6

board 1 = 15

board 1 = 31

board 1 = 56

board 1 = 92

board 1 = 141

board 1 = 205

board 1 = 286

board 1 = 386

board 1 = 507

board 1 = 651

board 1 = 820

board 1 = 1016

board 1 = 1241

board 1 = 1497

board 1 = 1786

board 1 = 2110

uses crt;

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.

48. Keluaran dari program di atas adalah