Adam Denis IS11Z

Varianta111.11.2021

1. Fie dată următorul fragment ce conţine un ciclu cu test iniţial:

*S:=1*

*i:=2*

*While i<4 do*

*i:=i+1*

*Readint(num)*

*S:=S+2\*Num*

*End*

**Scrie, fragmentul care conţine ciclu cu test final echivalent cu fragmentul anterior.**

S:= 1

I:=2

If i<~~=~~4 then

Repeat

i:=i+1

Readint(Num)

S:=S+2\*Num

Until i>=4

End

*2.* Fie dată următorul fragment ce conţine un ciclu cu test final:

*i:=5*

*S:=1*

*Repeat*

*S:=S+I*

*i:=i-1*

*Until i<=3*

**Scrie, fragmentul care conţine ciclu cu test initial echivalent cu fragmentul anterior.**

i:=5

S:=1

S:=S+I

i:=i-1

While i>3 do

S:=S+I

i:=i-1

End

1. Fie dat următorul fragment:

*N:=123*

*Repeat*

*WriteNat(N mod 10)*

*N:=N div 10*

*Until N<0*

**Indică, ce se va afişa în rezultatul execuţiei facestui fragment.**

|  |  |
| --- | --- |
| **N** | **N < 0** |
| **~~123~~** |  |
| **~~12~~** | **~~F~~** |
| **~~1~~** | **~~F~~** |
| **0** | **T** |

|  |
| --- |
| **Ecran: 321(0)** |

*4. fie*

*N:=345*

*While N>10 do*

*WriteNat(N mod 10)*

*N:=N div 10*

*End*

**Indică, ce se va afişa în rezultatul execuţiei facestui fragment.**

|  |  |
| --- | --- |
| **N** | **N > 10** |
| **~~345~~** | **~~True~~** |
| **~~34~~** | **~~True~~** |
| **3** | **False** |

|  |
| --- |
| *Ecran:54* |

*5.* Ce se va afişa pe ecran după executarea următorului fragment?

*Var*

*A: Natural*

*B: Natural*

*Begin*

*A:=20*

*B:=30*

*Repeat*

*A:=A+10*

*Until A>B*

*WriteNat(A mod 10)*

*WriteNat(B div10)*

*End*

|  |  |  |
| --- | --- | --- |
| A | B | A>B |
| ~~20~~ | ~~30~~ |  |
| ~~30~~ |  | ~~False~~ |
| 40 |  | True |

|  |
| --- |
| *Ecran:03* |

*6.* Care va fi valoarea variabileli *K* după executarea următorului fragment?

*K:=2*

*For i:=1 to 10 step 1*

*For j:=14 to 3 step -1*

*K:=K+1*

*End*

*End*

|  |  |  |
| --- | --- | --- |
| K | I | J |
| ~~2~~ |  |  |
| ~~3~~ | ~~1~~ | ~~14~~ |
| ~~4~~ |  | ~~13~~ |
| ~~5~~ |  | ~~12~~ |
| ~~6~~ |  | ~~11~~ |
| ~~7~~ |  | ~~10~~ |
| ~~8~~ |  | ~~9~~ |
| ~~9~~ |  | ~~8~~ |
| ~~10~~ |  | ~~7~~ |
| ~~11~~ |  | ~~6~~ |
| ~~12~~ |  | ~~5~~ |
| ~~13~~ |  | ~~4~~ |
| ~~14~~ |  | 3 |
| ~~15~~ | 2 | ~~14~~ |
| 16 |  | 13 |

*K = 122*

*7.* Fie dat următorul algoritm:

*Var*

*R: Natural*

*procedureP1(A: Natural,B: Natural, C: Natural)*

*begin*

*While A+B>20 Do*

*A:=A-2*

*B:=B-3*

*End*

*C:=A*

*End*

*Begin*

*R:=0*

*P1(14,35,R)*

*WriteNat(R)*

*End*

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | **B** | **C** | **A+B>20** |
| **~~14~~** | **~~35~~** | **~~0~~** | **~~True~~** |
| **~~12~~** | **~~32~~** |  |  |
| **~~10~~** | **~~29~~** |  |  |
| **~~8~~** | **~~26~~** |  |  |
| **~~6~~** | **~~23~~** |  |  |
| **~~4~~** | **~~20~~** |  |  |
| **2** | **17** | **2** | **False** |

**Indică ce va afişa pe ecran acest algoritm**

|  |
| --- |
| **R** |
| **0** |

|  |
| --- |
| **Ecran: 0** |

*8.* De realizat un program de afișare a tuturor numerelor de 2 cifre, cifrele cărora sunt egale.

program ex8;

Var

a : integer;

begin

for a:= 10 to 99 do

begin

if (a mod 10) = (a div 10) then

writeln(a);

end;

readln;

End.

9. Să se determine utilizând funcția CMMMC a două numere a și b.

program nr9;

var

a,b: integer;

function CMMMC (x,y:integer): integer;

var

mult, nok: integer;

begin

mult:=x\*y;

repeat

begin

if x>y then x:=x-y

else

y:=y-x;

end

until x=y;

nok:= mult div x;

CMMMC:=nok;

end;

begin

writeln(' tastati a= ');

read(a);

writeln(' tastati b= ');

read(b);

CMMMC(a,b);

writeln('CMMMC=',CMMMC(a,b));

readln;

end.