

Exercise 1 : (each correct answer is worth 1 point)

1) 3- Solves the 1st degree equation	2) 3) Calculates the number of positive values among n values entered by the user
3) 3- calculates the expression : $1^2 + 2^2 + \dots + N^2$	4) 2- calculates the expression : $1*2*...*N$
5) 1- Calculates the expression : x^N	6) 2- calculates the expression : $x^1 + x^2 + \dots + x^N$

<Exercise 2 : (9 points) (in green is the possible second solution)

Algorithm Exercise2

Variable

T , T1 , T2 : array of [1..150] of integer 0,5

N , i , S , j , k : integer 0,5

Begin

Repeat

Read(N)

0,25

Until (N ≥ 1) and (N ≤ 150)

0,25

S ← 0 ; j ← 1 ; k ← 1 ; ou (j ← 0 ; k ← 0)

0,75

For (i from 1 to N) do

0,25

Repeat

Read(T[i])

0,25

Until (T[i] > 0)

0,25

Endfor

For (i from 1 to N) do

0,25

If ((T[i] < 10) and (T[i] ≥ 5)) then

0,5 (0,25 + 0,25)

T[i] ← T[i] + 5

0,25

Endif

Endfor

For (i from 1 to N) do

0,25

If (T[i] mod 10 = 0) then

0,25

S ← S + 1

0,25

Endif

Endfor

For (i from 1 to N) do

0,25

If (T[i] mod 2 = 0) then

0,25

T1[j] ← T[i]

0,5

j ← j + 1

j ← j + 1

0,25

T1[j] ← T[i]

else

T2[k] ← T[i]

0,5

k ← k + 1

k ← k + 1

0,25

T2[k] ← T[i]

Endif

Endfor

For (i from 1 to N) do

0,25

Write (T[i])

0,25

Endfor

Write('the number of values divisible by 10 is ' , S)

0,25

For (i from 1 to j-1) do ou For (i from 1 to j) do

0,5

Write (T1[i])

0,25

Endfor

For (i from 1 to k-1) do ou For (i from 1 to k) do

0,5

Write (T2[i])

0,25

Endfor

End.

Exercise 3 : (5 points)

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Algorithm exercise3_2
Variable
i, n, F, P, x : integer      0,25
S : real                    0,25
begin
repeat
  read(n);                  0,25
  until (n ≥ 1)            0,25
repeat
  read(x);                  0,25
  until (x ≥ 0) 0,25
  S ← 0; 0,25
  For ( i from 1 to n ) do 0,25
    F ← 10,25
    For( j from 1 to x+i) do 0,5
      F ← F * j,0,25
    Endfor
    P ← 10,25
    For( j from 1 to i) do 0,5
      P ← P * F,0,25
    Endfor
    S ← S + P / i,0,5
  End for
  Write( S )0,5
End .
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