

Propositions de correction
Bac Pratique informatique
4 scientifiques -27 mai 2014-8h

```
Program BP_2014_27_Mai_8H;
uses wincrt;
Type
Tab=Array[1..50] of integer;
VAR
T1,T2:Tab;
N1,N2,N,M,A1,A2:integer;
(*****)
Procedure Saisie(var N,M:integer);
Begin
  Repeat
    write('Donner N et M : ');
    readln(N,M);
  Until(n>=10) and (N<=M) and (M<=999);
End;

(*****)

Function Som_Diviseur(x:integer):integer;
var
i,S:integer;
Begin
S:=0;
For i:=1 to( x div 2) do
  begin
    if( x MOD i= 0)then
      S:=S+i;
    end;
Som_Diviseur :=S;
End;
(*****)
Procedure Remplissage(var T:Tab;var Taille:integer;x:integer);
Begin
Taille :=1; T[1] :=x;
  Repeat
Taille :=Taille+1;
T[Taille] :=Som_Diviseur(T[Taille-1]);

  Until (T[Taille] = T[Taille-1])OR (T[Taille] = 1);
End;
(*****)
Procedure Affichage(T:Tab;N:integer);
```

```
var
i:integer;
Begin
  For i:=1 to N do
    write(T[i],'|');
End;
```

(*****)

```
Function Recherche(T:Tab;N,x:integer):Boolean;
```

```
var
i:integer;
Begin
i:=1;
While(i<=N) and (T[i] <> x) do
i:=i+1;
```

```
Recherche :=(i<=N);
End;
```

(*****)

```
Function NB_Commune(T1,T2:Tab;N1,N2:integer):integer;
```

```
var
i,NB:integer;
Begin
NB:=0;
For i:=1 to N1 do
begin
if(Recherche(T2,N2,T1[i]))then
NB:=NB+1;
end;
NB_Commune:=NB;
```

```
End;
```

(*****)

```
BEGIN
```

```
Saisie(N,M);
Remplissage(T1,N1,N);
Remplissage(T2,N2,M);
A1:=-1;
if(T1[N1]-T1[N1-1] = 0)then
writeln('Les termes de la suite de ',N,' ne forment pas une suite aliquote')
else
Begin
writeln('Les termes de la suite de ',N,' forment une suite aliquote');
Affichage(T1,N1);
A1:=1;
writeln;
```

```
end;

A2:=-1;
if(T2[N2]-T2[N2-1] = 0)then
  writeln('Les termes de la suite de ',M,' ne forment pas une suite aliquote')
else
  Begin
    writeln('Les termes de la suite de ',M,' forment une suite aliquote') ;
    Affichage(T2,N2);
    A2:=1;
    writeln;
  end;

if(A1=1) and (A2=1)then
  begin
    writeln('le nombre des termes communs ebntre ces deux suites aliquotes =
',NB_Commune(T1,T2,N1,N2));
  end;
END.
```

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4 scientifiques -27 mai 2014-9h30

```
Program Mardi27Mai2014_9H30;  
uses wincrt;
```

```
var ch:String;
```

```
(*****)
```

```
Function NB_Arobe(ch:String):integer;
```

```
var
```

```
  i,NB:integer;
```

```
Begin
```

```
  NB:=0;
```

```
  For i:=1 to Length(ch) do
```

```
    begin
```

```
      if(ch[i] = '@')then
```

```
        NB:=NB+1;
```

```
    end;
```

```
  NB_Arobe :=NB;
```

```
End;
```

```
(*****)
```

```
Function Valide(ch:String):Boolean;
```

```
var
```

```
  V1,V2:Boolean;
```

```
  i:integer;
```

```
Begin
```

```
  i:=1;
```

```
  V1:=True;
```

```
  While(i<=Length(ch)) and(V1=True) do
```

```
    begin
```

```
      if(uppercase(ch[i]) in ['A'..'Z','0'..'9','@','_','-','.'])then
```

```
        i:=i+1
```

```
      else
```

```
        V1:=False;
```

```
    end;
```

```
    V2:= Not((ch[POS('@',ch)-1] in ['_','-','.']));
```

```
  Valide := (V1) and (V2) and (NB_Arobe(ch) = 1);
```

```
End;
```

```
(*****)
```

```
Procedure Saisie(var ch:String);
```

```
Begin
```

```
Repeat
  write('@ Mail : ');
  readln(ch);
Until(upcase(ch[1]) in ['A'..'Z']) and (Valide(ch));
End;
(*****)
Function Mot_de_passe(ch:String):String;
var
Motpass:String;
Begin
  MotPass:=Copy(ch,1,POS('@',ch)-1)+ch[POS('@',ch)+1]+ch[Length(ch)];
Mot_de_passe:=Motpass;
End;
(*****)
BEGIN

  Saisie(ch);
  writeln('Mot de passe : ',Mot_de_passe(ch));
END.
```

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```
Program Mardi_27_MAI_2014_11H;
uses wincrt;
TYPE
Tab = Array[1..40] of integer;
VAR
T,V:Tab;
NT,NV :integer;
```

```
(*****)
```

```
(*****)
```

```
Procedure Saisie (var N:integer);
Begin
  Repeat
    write('Taille du tableau [5..40]: ');
    readln(N);
  Until(N in [5..40]);
End;
```

```
(*****)
```

```
Procedure Remplissage(var T:Tab;N:integer);
```

```
var
i:integer;
Begin
  For i:=1 to N do
    begin
      Repeat
        write('T[,i] = ');
        readln(T[i]);
        Until(T[i] > 0);
      end;
```

```
End;
```

```
(*****)
```

```
Function Suite(n:integer):integer;
```

```
var
i,U:integer;
Begin
U:=1;
For i:=1 to n do
  U:=3*U-1;
Suite :=U;
End;
```

```
(*****)  
Function Appartient(x:integer):boolean;  
var  
  i:integer;  
Begin  
  i:=-1;  
  Repeat  
    i:=i+1;  
  Until(Suite(i) >= x);  
Appartient :=(Suite(i) = x);  
End;
```

```
(*****)  
Procedure Transfert(T:Tab;var V:Tab;NT:integer;var NV:integer);  
var  
  i:integer;  
Begin  
  NV:=0;  
  For i:=1 to NT do  
    begin  
      if(Appartient(T[i]))then  
        begin  
          NV:=NV+1;  
          V[NV] :=T[i];  
        end;  
    end;  
End;
```

```
(*****)  
Procedure Affichage(V:Tab;NV:integer);  
var  
  i:integer;  
Begin  
  if(NV=0)then  
    writeln('Aucun élément de T ne correspond à un terme de la suite U')  
  else  
    begin  
      write(V[1],'|');  
      For i:=2 to NV do  
        begin  
          if(V[i] <>V[i-1])then  
            write(V[i],'|');  
        end;  
    end;  
End;  
(*****)
```

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```
Procedure Trier(var T:Tab;N:integer);
var
i,aux:integer;
permut:boolean;
Begin
  Repeat
    Permut :=False;
    For i:=1 to (N-1) do
      begin
        if(T[i]>T[i+1])then
          begin
            Aux :=T[i];
            T[i]:=T[i+1];
            T[i+1]:=Aux;
          end;
        end;
      Until(Permut = False);
    End;
  (*****
BEGIN
  Saisie(NT);
  Remplissage(T,NT);
  Transfert(T,V,NT,NV);
  Trier(V,NV);
  Affichage(V,NV);
END.
```


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```
Program Mardi_27_Mai_2014_14H;
uses wincrt;
var
A,B:Longint;
(*****)
Procedure Saisie(var A,B:longint);
Begin
  Repeat
    write('Bornes de l'intervalle (>=100 : ');
    Readln(A,B);
  Until(A>=100) and (A<B);
End;

(*****)
Function Polydivisible (N:Longint):Boolean;
var
i,e:integer;
x:longint;
Poly:Boolean;
ch,Test:String;
Begin
  i:=2;STR(N,ch);
  Test:=Ch[1]+ch[2]; VAL(Test,x,e);Poly:=True;
  while(i<=Length(ch)) and (poly=true) do
    begin
      if(x MOD i = 0)then
        begin
          i:=i+1;
          Test:=Test+ch[i];
          VAL(Test,x,e);

        end
      else
        Poly:=False;
      end;
    Polydivisible :=Poly;
End;
```

```
(*****)  
Procedure Affichage(A,B:longint);  
var  
  i:longint;  
Begin  
  For i:=A to B do  
    begin  
      if(Polydivisible(i))then  
        BEGIN  
          writeln(i);  
          READLN;  
        end;  
    end;  
End;  
(*****)  
(*****)  
  
BEGIN  
  Saisie(A,B);  
  Affichage(A,B);  
END.
```