U.M.M.T.O Licence 1 Maths-Info Sections: **D et A** A.U : **2016/17**

Filière TC MI

Corrigé type Examen d'Algo 1

(Durée : 1 h 30 mn)

Exercice 1 : (4 pts)

```
Program examExo1;
var i,n,j: integer;
     s, p: real;
begin
repeat
writeln('donner la valeur de n tque n >= 0');
readln(n);
until n >=0;
 s:=1;
for i:=1 to n do
begin
p:=1;
for j:=1 to i do p:= p*1.5;
s:= s +1/p;
end;
write (s);
end.
```

```
Program examExo1AutreSolution;
var i,n,j: integer;
     s, p: real;
begin
repeat
writeln('donner la valeur de n tque n >= 0');
readln(n);
until n >=0;
 s:=1;
 p:=1;
for i:=1 to n do
begin
 p:= p*1.5;
 s:= s +1/p;
end;
write (s);
end.
```

Exercice 2 : (8 pts)

```
Program examExo2;
Const tvmax = 20;
Var v: array[1..tvmax ] of string [15];
      Cpt, j, i, n, s: integer;
Begin
Repeat
Writeln('donner le nombre de chaines à saisir entre 2 et', tvmax);
Readln(n) ;
Until (n>=2) and (n<= tvmax) ;
For i:= 1 to n do
Begin
Writeln('donner la chaine non vide (entre 0 et 15 caractères) de la case n°', i);
Repeat
  Readln (v[i]) ;
Until (length (v[i]) > 0) and (length (v[i] <= 15) ;
End;
 S:= 0;
For i:= 1 to n do
Begin
  Cpt:= 0;
  For j := 1 to length (v[i]) do
    Case v[i][j] of
      'A', 'O', 'I', 'U','E', 'Y': cpt:= cpt +1;
    End;
S := s + cpt * i;
End;
Write ('s = ', s);
End.
```

Exercice 3 : (8 pts)

```
Program examExo3 ;
Const n= 4 ;
Var M : array[1..n,1..n] of integer ;
      i,j: integer;
      nvp, svp,cpt,max: integer;
     mvp: real;
begin
for i:=1 to n do
for j:= 1 to n do
begin
  writeln ('M(', i ,',', j ,')=?');
  readln (M[i,j]);
end;
max := 0;
for i:=1 to n do
begin
 cpt:= 0;
 for j:= 1 to n do
if M[i,j] >M[i,i] then cpt := cpt + 1;
writeln('Ligne n°', i, ': Nombre =', cpt);
if cpt > max then max := cpt ;
end;
writeln ('Nombre maximal = ', max);

svp := 0;
nvp := 0;
for i:=1 to n do
for j:= 1 to n do
if  (M[i,j] > 0) and (M[i,j] mod 2 = 0)
then begin
            nvp := nvp + 1;
            svp := svp + M[i,j] ;
       end;
if nvp = 0 then write (' pas de valeurs paires strictement positives')
              else begin
                      mvp := svp / nvp;
                      write ('Moyenne valeurs paires =', mvp) ;
                   end ;
end.
```