CORR EX2 PAGE 174

```
uses wincrt;
type tab =array[1..6] of string;
var n,i:integer; t:tab;
procedure saisie(var n:integer);
var ch1:string;
begin
repeat
write( 'n= '); readln(n); str(n,ch1);
until (pos('0',ch1) =0) and (length(ch1) =3);
end;
procedure traitement (n:integer; var t:tab);
var i,j:integer; ch:string  ;
procedure permuter (var a,b:char);
var c:char;
begin
c:=a;  a:=b;  b:=c;
end;
begin
str(n,ch);  j:=1;  t[1]:= ch;
for i:= 1 to 2 do  begin
permuter(ch[1],ch[2]); j:=j+1; t[j]:=ch  ;
permuter(ch[2],ch[3]); j:=j+1; t[j]:=ch;
end;
j:=j+1; permuter(ch[1],ch[2]);  t[j]:=ch;
end;
function maximum (t:tab):integer;
var max,e,i,m:integer;
begin
 val(t[1],max,e);
 for i:= 2 to 6 do   begin
 val(t[i],m,e) ;  if max < m then max:= m;
 end;   maximum := max;
end;
function minimum (t:tab):integer;
var min,e,i,m:integer;
begin
 val(t[1],min,e);
 for i:= 2 to 6 do   begin
 val(t[i],m,e) ;
 if min >m then min:= m;
 end;
 minimum := min;
end;
begin
saisie(n) ;
traitement(n,t);
for i:=1 to 6 do
writeln(t[i]);
writeln ('le maximum est ',maximum(t));
write ('le minimum est ',minimum(t));
end.
```

CORR EX3 PAGE 174

```
uses wincrt;
type tab1 = array [1..100] of real;
    Var n,i,pm,j:integer;    t:tab1;
procedure saisie( Var x:integer);
begin
repeat
write('x= '); readln(x);
until x>2;
end;
procedure remplir_tab(Var t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do begin
write ('T[ ',i,']= ');readln(t[i]);
end;
end;
procedure permuter (var a,b:real);
var c:real;
begin
c:=a; a:=b; b:=c;
end;
function pos_min (a:tab1; p,k:integer):integer;
var pm:integer;
begin
pm:=p; for i:= p+1 to k do
if a[i]< a[pm] then pm:= i;
pos_min:=pm;
end;
procedure affiche(t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do
writeln (t[i]:6:2);
end;
begin
saisie(n);
remplir_tab(t,n);
for j:= 1 to n-1 do  begin
pm:=pos_min(t,j,n);
if t[pm] <> t[j] then permuter (t[pm],t[j]);
end;
affiche(t,n);
end.
```

CORR EX4 PAGE 175

```
uses wincrt;
type tab1 = array [1..100] of real;
    Var n,i,pm,j:integer;    t:tab1;
procedure saisie( Var x:integer);
begin
repeat
write('x= '); readln(x);
until x>2;
end;
procedure remplir_tab(Var t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do begin
write ('T[ ',i,']= ');readln(t[i]);
end;
end;
procedure permuter (var a,b:real);
var c:real;
begin
c:=a; a:=b; b:=c;
end;
function pos_min (a:tab1; p,k:integer):integer;
var pm:integer;
begin
pm:=p; for i:= p+1 to k do
if a[i]< a[pm] then pm:= i;
```

```
pos_min:=pm;
end;
procedure affiche(t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do
writeln (t[i]:6:2);
end;
begin
saisie(n);
remplir_tab(t,n);
for j:= 1 to n-1 do  begin
pm:=pos_min(t,j,n);
if t[pm] <> t[j] then permuter (t[pm],t[j]);
end;
affiche(t,n);
end.
```

CORR EX5 PAGE 176

```
uses wincrt;
type tab1 = array [1..100] of integer;
    Var h,n,ind_i,ind_j:integer;    t:tab1;
procedure saisie( Var n,ind_i,ind_j:integer);
begin
repeat
write('donner un entier '); readln(n);
until n>2;
repeat
write('ind_i =  '); readln(ind_i);
write('ind_j =  '); readln(ind_j);
until (0<ind_i) and (ind_i< ind_j) and (ind_j<n);
end;
procedure remplir_tab(Var t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do   begin
write ('T[ ',i,']= ');readln(t[i]);
end;
end;
procedure permuter (var a,b:integer);
var c:integer;
begin
c:=a;   a:=b;   b:=c;
end;
function min(a:tab1;ind_i,ind_j:integer):integer;
var m,i:integer;
begin
m:=a[ind_i];
for i:= ind_i+1 to ind_j do
if a[i]< m then m:= a[i];
min:=m;
end;
procedure affiche(t:tab1;n:integer);
var i:integer;
begin
for i :=1 to n do
writeln (t[i]);
end;
begin
saisie(n,ind_i,ind_j);
remplir_tab(t,n);
writeln('La valeur Min est : ',min(t,ind_i,ind_j));
writeln ('Les multiples de  ',min(t,ind_i,ind_j),' sont ');
for h:= ind_i to ind_j do
if (t[h] mod min(t,ind_i,ind_j) =0 ) and  (t[h] <>
min(t,ind_i,ind_j)) then write (t[h],'   ');
end.
```

CORR EX6 PAGE176

```
uses wincrt;
type tab1 = array [1..20] of integer;
    Var n,ind,i:integer;    t:tab1;
procedure saisie( Var x:integer;var t:tab1);
var i1:integer;
begin
repeat
write('donner un entier '); readln(x);
until x in [6..19];
for i1 :=1 to n do
begin
write ('T[ ',i1,']= ');readln(t[i1]);
end;
end;
function somme(t:tab1; p1,p2:integer):integer;
var s,i:integer;
begin
for i:= p1 to p2 do   s:=s+t[i];
somme:=s;
end;
function ecartmin(t:tab1;n:integer):integer;
var ecart,i,min:integer;
begin
min := somme(t,1,n);
for i:=2 to n-1 do
 begin
  ecart:= abs(somme(t,1,i) - somme(t,i,n));
  if ecart < min then min:=ecart;
  end;
ecartmin:=min;
end;
begin
saisie(n,t);
write ('ecart =' ,ecartmin(t,n));
for i:=2 to n-1 do
if abs(somme(t,1,i) - somme(t,i,n)) = ecartmin(t,n) then
ind:= i;
write ('indice = ',ind);
end.
```

CORR EX8 PAGE 178

```
uses wincrt;
type tab1 = array [1..20] of integer;
      Var n:integer;          t:tab1;
procedure saisie( Var x:integer;var t:tab1);
var i1:integer;
begin
repeat
write('donner un entier '); readln(x);
until x in [5..20];
for i1 :=1 to n do
begin
repeat
write ('T[ ',i1,']= ');readln(t[i1]);
until (t[i1]>100) and (t[i1]<999);
```

```
end;  end;
 function max (a:tab1; n:integer):integer;
var m,i2:integer;
begin
m:=a[1];   for i2:= 2 to n do
if a[i2]> m then m:= a[i2];
max:=m;
end;
procedure affiche (t:tab1;n:integer);
var ch:string; i,j,e,z:integer; test:boolean;
procedure permut (var a,b:char);
var h:char;
begin  h:=a; a:=b; b:=h;  end;
begin
writeln('max = ',max(t,n));
write('les valeurs dont les chiffres donnent par
permutation la valeur maximale sont : ');
for j:=1 to n do    begin
if t[j]<>max(t,n) then     begin  test:=false;
z:=t[j];
for i:= 1 to 2 do     begin
 str(t[j],ch);
 permut(ch[3],ch[1]); val(ch,t[j],e);if t[j] = max(t,n) then
test:=true;
 permut(ch[2],ch[1]);val(ch,t[j],e);if t[j] = max(t,n) then
test:=true;
 end;
  permut(ch[3],ch[1]); if t[j] = max(t,n) then test:=true;
  if test =true then writeln(z);
 end;
end;  end;
begin
saisie(n,t);
affiche(t,n);
end.
```