

Série 1 (Les structures de control conditionnelles)

Exercice 01;

```
var
x1,y1,x2,y2,d1,d2:real;
begin
    x1 := strtoint(edit1.text) ;
    y1 := strtoint(edit2.text) ;
    x2 := strtoint(edit3.text) ;
    y2 := strtoint(edit4.text) ;
    d1:= sqrt(sqr(x1)+sqr(y1));
    d2:= sqrt(sqr(x2)+sqr(y2));
    if(d1<d2) then
        showmessage('M est le plus proche')
    else if (d2 < d1) then
        showmessage('N est le plus proche')
    else
        showmessage('M,N dans la meme distance de 0');
end ;
```

Exercice 02;

```
var
x:real;
begin
    x := strtoint(edit1.text) ;
    if(x>0) then
        showmessage('x est positif')
    else if (x < 0) then
        showmessage('x est negatif')
    else
        showmessage('x est null');
end ;
```

Exercice 03:(afficher le max et le min de trois numéros)

```
var
x,y,z:integer;
begin
    x := strtoint(edit1.text) ;
    y := strtoint(edit2.text) ;
    z := strtoint(edit3.text) ;
    max:=x;
    min:=x;
    if(y>max) then
        max:= y;
    if(z>max) then
        max:=z;
    if(y<min) then
        min:=y;
    if(z<min) then
        min:=z;

    label1.caption := inttostr(max);
    label2.caption := inttostr(min);
end ;
```

Exercice 04:

```
var
j:integer;
fc28,fcj:real;
begin
    j:= strtoint(edit1.text);
    fc28:=strtoint(edit2.text);
    if((j<28)and(fc28<=40)) then
        fcj:= ((j*fc28)/(4,76+0,83*j));
    if((j<28)and(fc28>40)) then
        fcj:= ((j*fc28)/(1,24+0,95*j));
    if(j>=28) then
        fcj:=fc28;
    label1.caption := floattostr(fcj);
end;
```

Exercice 05:

```

var
p1,p2,p3,total:real;
begin
    p1:= strtofloat(edit1.text);
    p2:= strtofloat(edit2.text);
    p3:= strtofloat(edit3.text);
    total := p1+p2+p3;
    if(round(total)>4500) then
        showmessage('budget est dépassé')
    else
        showmessage('budget n''est pas dépassé');
end;

```

Exercice 06:

```

var
n:integer;
begin
    n:= strtoint(edit1.text);
    if(n mod 5 = 0) then
        showmessage('multiple de 5')
    else
        showmessage('Non');
end;

```

Exercice 07:

```

var
prix:real;
n:integer;
begin
    prix:= strtfloat(edit1.text);
    n:= strtoint(edit2.text);
    if(n>5) then
        prix:=prix*n*0,95;
    if((n>=3)and(n<=5)) then
        prix:=prix*n*0,97;
    if(n<3) then
        prix:=prix*n;
    label1.caption := floattostr(prix);
end;

```

Exercice 08:

```

var
n:integer;
begin
    n:= strtoint(edit1.text);
    if((n mod 6 = 0)and(n mod 7 = 0)) then
        showmessage('le numéro est divisible par 6 et 7')
    else
        showmessage('le numéro n''est divisible par 6 et 7');
end;

```

Exercice 09:

```

var
n1,n2,n3,moy:real;
c1,c2,c3:integer;
begin
    c1:= strtoint(edit1.text);
    c2:= strtoint(edit2.text);
    c3:= strtoint(edit3.text);
    n1:= strtfloat(edit1.text);
    n2:= strtfloat(edit2.text);
    n3:= strtfloat(edit3.text);
    moy:= (n1*c1+n2*c2+n3*c3)/(c1+c2+c3);
    if(moy>=10) then
        showmessage('Admissible')
    else
        showmessage('Éliminé');
end;

```

Exercice 10:

```

var
h,m,s,time:integer;
begin
    h:= strtoint(edit1.text);
    m:= strtoint(edit1.text);
    s:= strtoint(edit1.text);
    time:=h*3600+m*60+s+1;
    if(time >(3600*24)) then
        time:=time - (3600*24);

```

```

h:=time div 3600
m:=(time -(3600*h)) div 60;
s:= time -(3600*h+m*60);
label1.caption:= inttostr(h);
label2.caption:= inttostr(m);
label3.caption:= inttostr(s);
end;

```

Exercice 11:

```

var
x,y,t:integer;
begin
  x:= strtoint(edit1.text);
  y:= strtoint(edit1.text);
  if(x>y) then
  begin
    t:=y;
    y:=x;
    x:=t;
  end;
end;

```

Exercice 12:

```

var
h,m,hd,md,ha,ma,timed,timea,time:integer;
begin
hd:= strtoint(edit1.text);
md:= strtoint(edit2.text);
ha:= strtoint(edit3.text);
ma:= strtoint(edit4.text);
timed:=60*hd+md;
timea:=60*ha+ma;
time:=timea-timed;

```

```

h:=time div 60;
m:=time mod 60;

```

```

label1.caption := inttostr(h);
label2.caption := inttostr(m);
end;

```

Exercice 13:

```

var
na:integer;
prix,ttc,total,remise:real;
begin
  p:= strtofloat(edit1.text);
  na:= strtoint(edit1.text);
  ttc:=p*na*1,17;
  remise:=0;
  if(ttc>=1000)then
    remise:=ttc*0,05;
  total:=ttc-remise;
  label1.caption:=floattostr(ttc);
  label2.caption:=floattostr(remise);
  label3.caption:=floattostr(total);
end;

```

Exercice 14:

```

var
nc:integer;
total:real;
begin
  nc:= strtoint(edit1.text);
  if(nc<=20)then
    total:=nc*3;
  if((nc>20)and(nc<40))then
    total:=nc*2,5;
  if(nc>=40)then
    total:=nc*2;

  label1.caption:=floattostr(total);
end;

```

Exercice 15:

```

var na,age:integer;
begin
    na:= strtoint(edit1.text);
    age:= strtoint(edit2.text);
    if(na=0) then
        begin
            if(age<25) then
                showmessage('Orange')
            else
                showmessage('Vert');
        end;
    if((na >= 1)and(na<=6)) then
        begin
            if(age<25) then
                showmessage('Rouge')
            else
                showmessage('Orange');
        end;
    if(na>=7) then
        showmessage('Pas assure');
end;

```

Exercice 16:

```

var
r1,r2,r3,r4,re:real;
begin
    r1:= strtofloat(edit1.text);
    r2:= strtofloat(edit2.text);
    r3:= strtofloat(edit3.text);
    r4:= strtofloat(edit4.text);
    Re:=R1+R2+(R3*R4)/(R1+R2)
    label1.caption := floattostr(Re);
    if(Re>=90)then
        showmessage('Résistance électrique élevée');
    if((Re>10)and(Re<90))then
        showmessage('Résistance électrique moyenne');
    if(Re<=10)then
        showmessage('Résistance électrique faible');
end;

```

Série2 (Les structures de contrôle itératives)**Exercice 02:**

```

var
n,s,i:integer;
begin
    n := strtoint(edit1.text) ;
    s:=0;
    for i:=1 to n do
        begin
            s:= s+ 5*i;
        end;
    label1.caption := inttostr(s);
end ;

```

Exercice 03:

(Dans cet exercice on calcule la somme des diviseurs d'un numéro n, et on dit s'il premier ou non, s'il est parfait ou non)

```

var
i,n,s:integer;
begin
    n := strtoint(edit1.text) ;
    s:=0;
    for i:=1 to trunc(n/2) do
        begin
            if(n mod i = 0) then
                s:= s+ i;
            end;
        showmessage('S = '+ inttostr(s));
        if (s=1) then
            showmessage('Premier');
        if (s=n) then
            showmessage('Parfait');
end;

```

Exerice 04:

```

var
n,un1,un2,u,i:integer;
begin
    n := strtoint(edit1.text) ;
    un1:=1;
    un2:=1;
    for i:=3to n do
        begin
            u:=u1+u2;
            u2:=u1;
            u1:=u;
        end;
    label1.caption := inttostr(u);
end ;

```

Exerice 05:

```

var
a,b:integer;
begin
    a := strtoint(edit1.text) ;
    b := strtoint(edit2.text);
    while(a <> b) do
        begin
            if (a>b) then
                a:= a-b
            else
                b:=b-a ;
            end;
        label1.caption := inttostr(a);
    end ;

```

Exercise 06:

```

var
m,a,b,i:integer;
begin
    a := strtoint(edit1.text) ;
    b := strtoint(edit1.text) ;
    m:=0;
    for i:=1 to b do
        begin
            m:= m+ a;
        end;
    label1.caption := inttostr(m);
end ;

```

Exercise 07:

```

var
n:integer;
m,x:real;
begin
    x := strtfloat(edit1.text) ;
    n := strtoint(edit1.text) ;
    m:=1;
    for i:=1 to n do
        begin
            m:= m*x;
        end;
    label1.caption := floattostr(m);
end ;

```

Exercise 08:

```

var
s1,s2,i:integer;
begin
    s1:=0;
    s2:=0;
    for i:=1 to 100 do
        begin
            s1:= s1+ i; s2:= s2+i*i;
        end;
    label1.caption := inttostr(s1);
    label1.caption := inttostr(s2);
end ;

```

```

var
i:integer;
s3:real;
begin
    s3:=0;
    for i:=1 to 100 do
        begin
            if(i mod 2 =0) then
                s3:=s3+1/i
            else
                s3:=s3-1/i;
            end;
        label1.caption := floattostr(s3);
    end ;

```

```

var
i:integer;
s4:real;
begin
    s4:=0;
    t:=1;
    i:=0;
    while(t<>46) do
        begin
            t:=t+i;
            s4:=s4+1/t;
            i:=i+1;
        end;
        label1.caption := floattostr(s4);
    end;

```

Exercice 09:

```

var
i,f:integer;
e,y,x:real;
begin
    x:= strtofloat(edit1.text);
    e:=1;
    f:=1;
    for i:=1 to 100 do
        begin
            f:= f*i;
            y:= power(x,i)/f;
            e:=e+y;
        end;
        label1.caption := floattostr(e);
    end ;

```