The third serie (N°03)

Solution

Exercice 01 :

This a Pascal program that allows us to find the solution to the equation:

$Ax^2 + bx + c = 0.$ by treating all possible cases (a = 0; b = 0; delta =0, ...) using procedures where each procedure deals with only one case.

See the solution on the next page...

```pascal
Program equation;
var a,b,c,delta:real;

Procedure proc0;
var x:real;
Begin
x:=-c/b;
writeln('There is one solution: ',x:0:2);
end;

Procedure proc1;
var x1,x2:real;
Begin
x1:=(-b-sqrt(delta))/2*a;
x2:=(-b+sqrt(delta))/2*a;
writeln('There are two solutions: x1= ',x1:0:2,' and x2= ',x2:0:2);
end;

Procedure proc2;
var x:real;
Begin
x:=-b/2*a;
writeln('There is double solution: ',x:0:2);
end;

Procedure proc3;
Begin
writeln('There is no solution');
end;

begin
writeln('Enter a, b and c: '); readln(a,b,c);
delta:=b*b-4*a*c;
if a=0 then proc0 else
Begin
if delta>0 then proc1 Else
if delta=0 then proc2 else proc3;
end;

readln;
end.
```
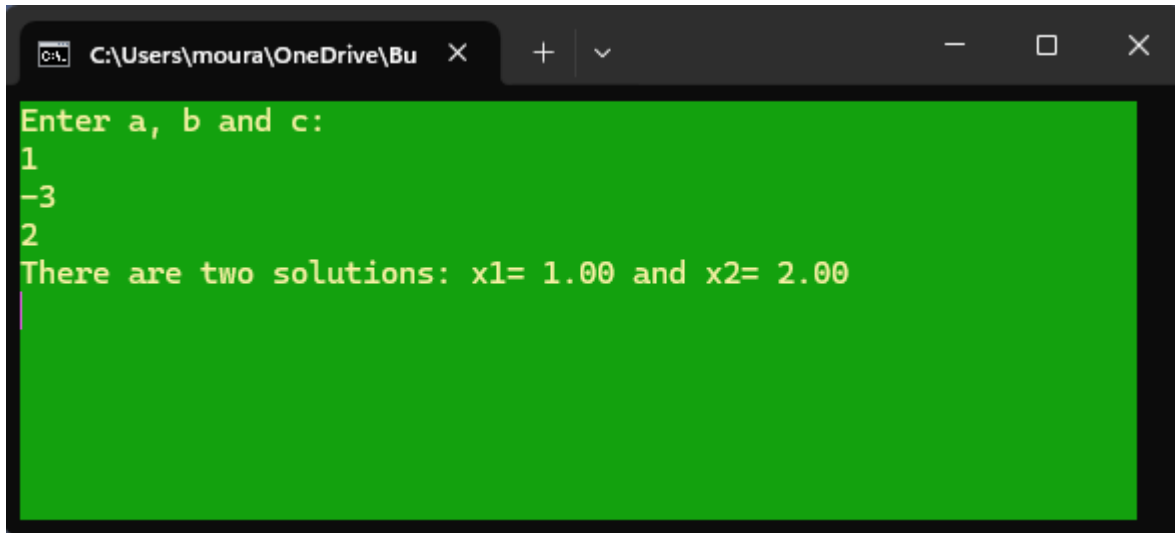
After running the program, here is the display:


```
Enter a, b and c:
1
-3
2
There are two solutions: x1= 1.00 and x2= 2.00
```