

T.D. n°8 : Correction

Partie I

```
1) s:=0;
for k:=1 to n do s:=s+1/(1+k);
2) function factorielle (n : integer) : integer;
    var i, p : integer;
    begin
        p:=1;
        for i:=1 to n do p:=p*I;
        factorielle:=p;
    end;
3) function factorielle (n : integer) : integer;
    begin
        if n=0 then factorielle:=1
        else factorielle:=n*factorielle(n-1);
    end;
4) n:=1;u:=2;
    repeat
        n:=n+1;
        u:=u-ln(u)+1;
    until abs(u-exp(1))<1E-4;
    writeln(n);
    readln;
5) u:=1;v:=-1;
    for i:=2 to 10 do begin
        w:=v - 2*u;
        u:=v;
        v:=w;
    end;
6) a:=0.5;b:=1;
    repeat
        c := (a + b)/2;
        if c + ln(c) > 0 then b:=c
        else a:=c;
    until b-a < 1E-3;
    write(a);
```

Partie II

```
1) x:=random(6) + 5;
2) if random<2/5 then boule:='R'
    else boule:='V';
3) x:=0;
    for i:=1 to 5 do if random<1/3 then x:=x+1;
4) x:=0;
    repeat x:=x+1; until random<1/3;
5) x:=2*random-1;
6) x:= - ln(1 - random)/2;
```