

## **Méthode de la bisection - Organigramme et programme.**

Écrit par Administrator

Samedi, 02 Mai 2020 13:23 - Mis à jour Samedi, 02 Mai 2020 13:28

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```
clear
clc
```

```
while %t
```

```
disp("Input endpoints that contain the root function x*")
deff('F=f(x)',F=cos(x)+x')// define function f(x)
a=input("First endpoint of the interval [a,b]!?")
b=input("Second endpoint of the interval [a,b]!?")
```

```
if f(a)*f(b)> 0 then
    disp("Please check the endpoints a or b that verify f(a)*f(b)<0")
end
```

```
while f(a)*f(b)<0 // check the existence of roots in the interval [a,b]
    n=1// start counter
```

```
while abs(b-a)>%eps // stopping criteria
    m=(a+b)/2
    n=n+1
    if f(m)*f(a)<0 then
        a=m
    else
        b=m
    end
end
```

```
disp("m = "+string(m))// display x root-result.
disp("f("+string(m)+" = "+string(f(m)))// display f(m) results
disp("n = "+string(n))// display iterations number
```

```
end
```

```
cont=input("Do you want to continue!? Y or N !?", "string")
if cont=="N" then
    break
end
```

```
end
```

```
b=m
```