

```
clc; clear all;

x=input('\n Entrer la valeur initial y0 = ');
r=0.6;
k=0;

epsilon=1;

while (epsilon > 10^-100)
    k=k+1;

    x=x-r*grd(x);
    gd=grd(x);

    epsilon=norm(gd);
end
min=x
iter=k
```

```
function f=grd(x)
```

```
f(1)=4*x(1)^3-2*(x(1)-x(2));  
f(2)= 4*x(2)^3-2*(x(1)-x(2));  
end
```