Programs

Bisection method (طريقة التنصيف)

```
Function y=funcbisect01(x);
Y=3.*x.^5-2.*x.^3+6.*x-8;

%%%main
x1=1;x2=2;tol=0.00001
Disp('xm    fm');
Disp('----------------------')
While (abs(x1-x2)>2*tol);
F1= funcbisect01(x1);
F2= funcbisect01(x2);
Xm=(x1+x2)/2;
Fm= funcbisect01(xm);
Fprintf('%9.6f %13.6f \n',xm,fm)
If (f1*fm<0)
X2= Xm
Else
X1= Xm
End
End
```

Lagrange Interpolation method(طريقة لاكرانج)

```
--
%input :number
x(0),,x1(1),x2(2).....x(n);values
%f(x(0)),f(x(1)),....,f(x(n)) and value of x
which  we ae want to compute
%the polynomial in it
% output:value of thee polynomail p in the point
x
clc
clear all
n=input('enter value of polynomial')
for i=1:n
   fprintf('input x(%d) and f(x(%d)) on seperate
lines\n',i,i);

    x(i)=input(' ');
    f(i)=input(' ');
end

X=input('  ')
s=0;
for i=1:n
    m=1
    for j=1:n
        if i~=j
        m=m*(((X-x(j)))/((x(i)-x(j))))
         end
    end%forj
    s=s+f(i)*m
end %fori
fprintf('the polynomail p is equal to %f\n',s)
```