Assignment4.m

```
%Given three points in a 2D plane find a quadratic curve that fits these points. Use Gauss method to find
the solution. Extend the method to fit any  arbitrary number of points.

clc

close all

clear all

X=input("Enter the values of 'X'");
Y=input("Enter the values of 'Y'");

n=length(X);
for i=1:n
    A(i,1)=X(i,:)^2 ;
    A(i,2)=X(i,:) ;
    A(i,3) = 1;
end
A
B=Y

scatter(X,Y)
Aug = [A B];

[N,m] = size(Aug);

for i=1:N
    Aug(i,:) = Aug(i,:)/Aug(i,i);
    for j=1:N
        if j~=i
            Key = Aug(j,i);
            Aug(j,:) = Aug(j,:)-Key*Aug(i,:);
        end
    end
end

r=(length(Aug)/2);
XW =  Aug(:,r+2:end);

X=-5:0.2:5;

Y=XW(1,1)*X.^2+XW(2,1)*X+XW(3,1);


hold on;
plot(X,Y);
grid()
```