```
%interpolation. problem1 & 2 close all; clear all; clc; 
x = [1 2 4 6]; 
y = [1 8 64 216]; 
xn = x(1):0.1:x(end); 
yn = linear_interp(x,y,xn); 
ynp=polynomial_interp(x,y,xn); 
subplot(2,1,1) 
plot(x,y,'o',xn,yn,'r'); 
subplot(2,1,2) 
plot(x,y,'o',xn,ynp,'r');
```