```
clear all; close all;
%--------Gauss Newton----------
x1=0; y1=1; x2=1; y2=1; x3=0; y3=-1;


xy=[0 0];
tol=0.5e-7;
normh=1;

while normh>tol
    x=xy(1); y=xy(2);
    F=[sqrt((x-x1)^2+(y-y1)^2)-1
       sqrt((x-x2)^2+(y-y2)^2)-1
       sqrt((x-x3)^2+(y-y3)^2)-1]; %R=1:

   J=[(x-x1)/(sqrt((x-x1)^2+(y-y1)^2)) (y-y1)/(sqrt((x-x1)^2+(y-y1)^2))
       (x-x2)/(sqrt((x-x2)^2+(y-y2)^2)) (y-y2)/(sqrt((x-x2)^2+(y-y2)^2))
       (x-x3)/(sqrt((x-x3)^2+(y-y3)^2)) (y-y3)/(sqrt((x-x3)^2+(y-y3)^2))];

   h=J\F;
   xy=xy-h';
   normh=norm(h);

end

fi=linspace(0,2*pi);
c1x=cos(fi)+x1; c1y=sin(fi)+y1;
c2x=cos(fi)+x2; c2y=sin(fi)+y2;
c3x=cos(fi)+x3; c3y=sin(fi)+y3;

plot(c1x,c1y, c2x, c2y,c3x,c3y)
axis equal
grid on
hold on
plot(xy(1),xy(2),'o')

%---------Interpolation 5.2-----------------
y2=0.4; %y2=5.2;
x=[1.6 2.4 3.2]'; y=[4.4 y2 2.0]';

A=[ones(length(x),1) x x.^2];

b=y;

c=A\b;
```

```
anpassad_pol=@(xx) c(1)+c(2)*xx+c(3)*xx.^2;

xx=1:0.01:4;

plot(x,y,'o')
hold on
plot(xx,anpassad_pol(xx))
```