**1.Rezolvare exercitiu:**

%ex1 subpunctele a si b

x = linspace(1,10,100);

sinus = sin(x);

cosinus = cos(x);

plot(x,sinus);

hold on;

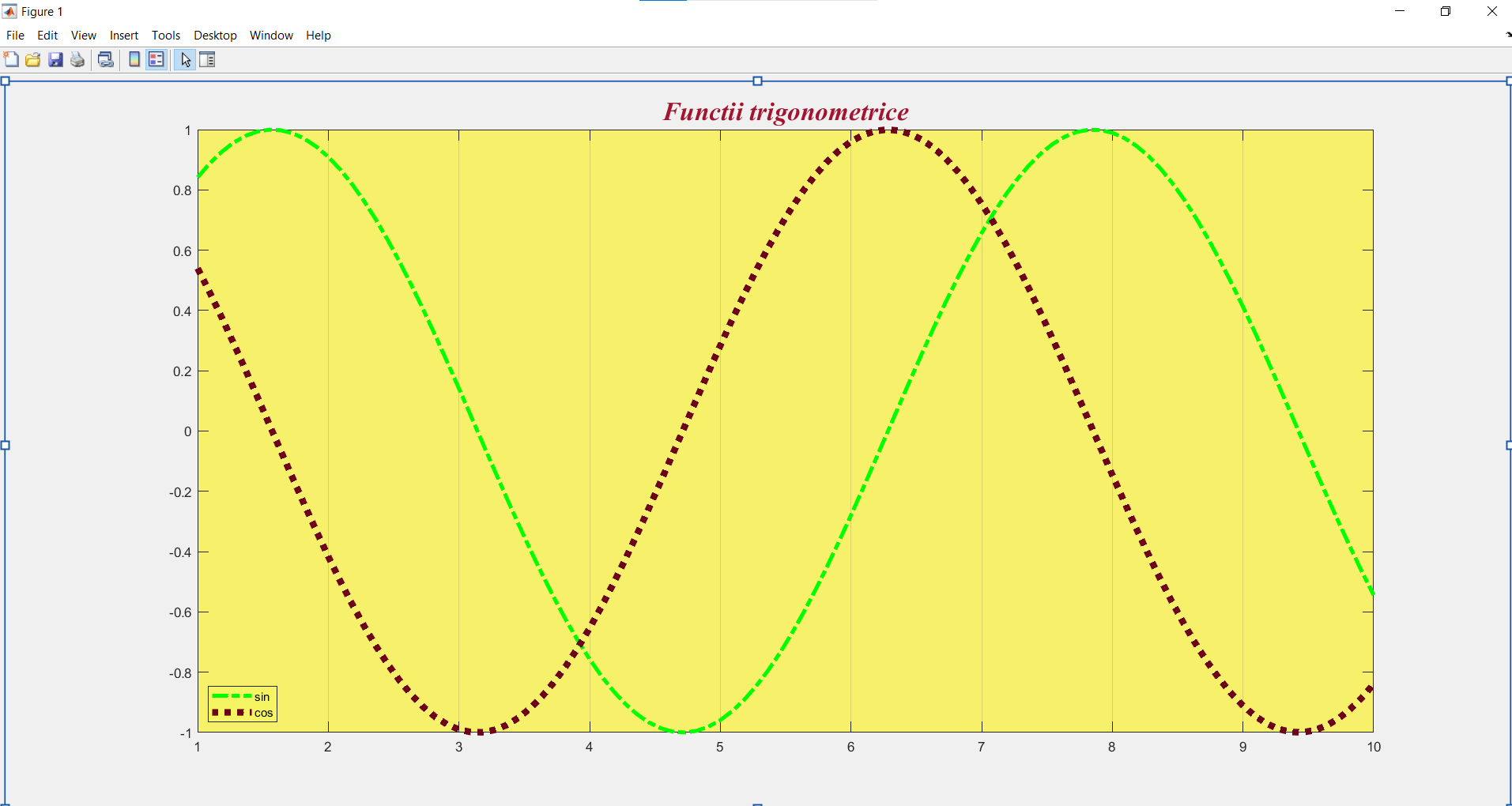
plot(x,cosinus);

legend('sin','cos','Location','southwest')

title('Functii trigonometrice');

hold off;

%subpunctul c

****

**2.Rezolvare exercitiu:**

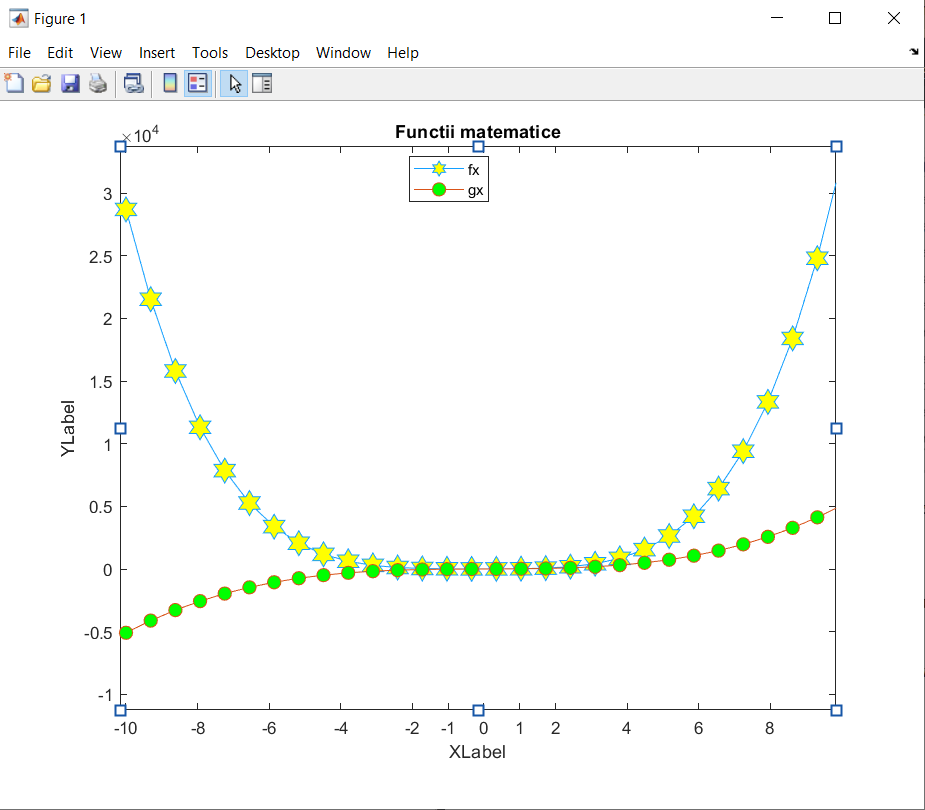
%ex2

x=linspace(-10, 10, 30);

fx=3.\*x.^4+2.\*x.^3+7.\*x.^2+2.\*x+9;

gx=5.\*x.^3+9.\*x+2;

plot(x, fx, x, gx);

****

**3.Rezolvare exercitiu**

%ex3

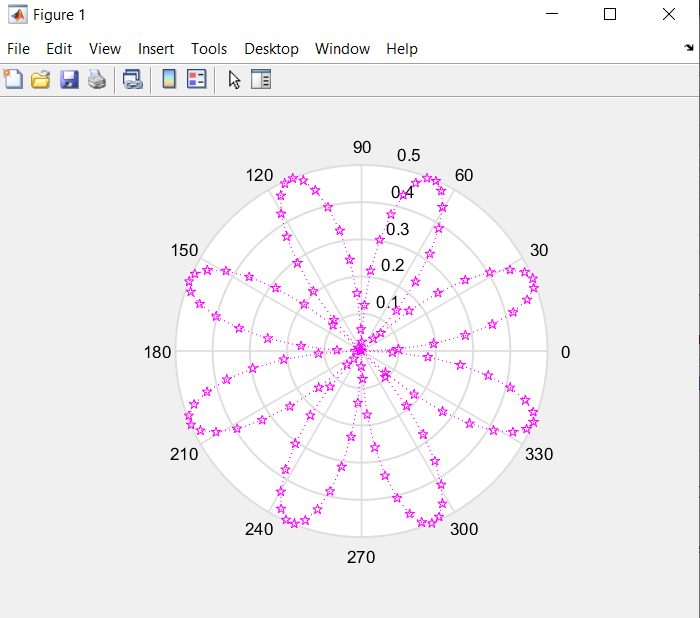
t=0:0.05:2\*pi;

polar(t, f(t), 'mp:');

function y=f(t)

y=sin(2.\*t).\*cos(2.\*t);

end

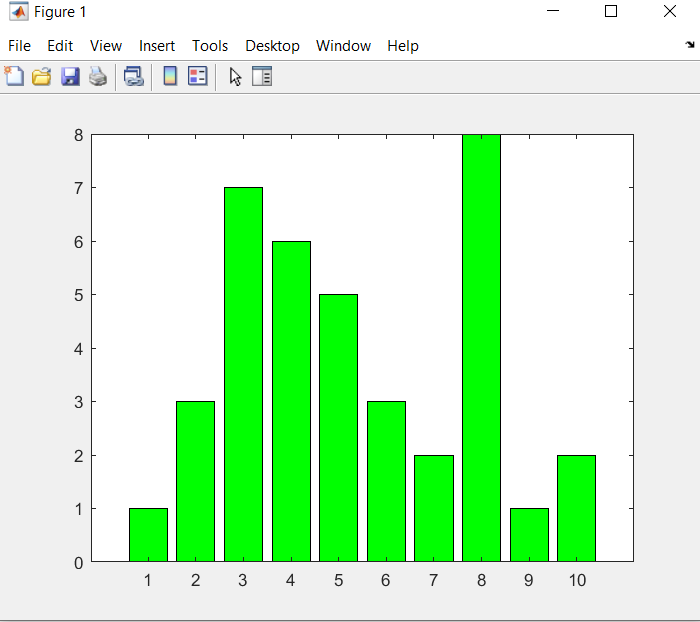
****

**4.Rezolvare exercitiu**

%ex4

y=[1 3 7 6 5 3 2 8 1 2];

bar(y, 'g');

****

**5.Rezolvare exercitiu**

%ex5

n=1:20;

x=sin((pi/5).\*n)

subplot(2, 1, 1);

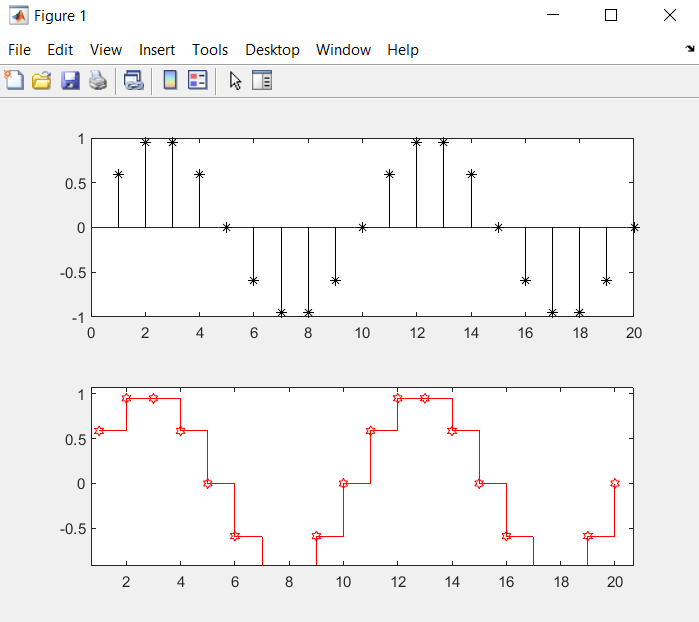
stem(x, 'k\*');

subplot(2, 1, 2);

stairs(x, 'rh-');

xlabel = x;

ylabel = y;

****

**6.Rezolvare exercitiu**

%ex6

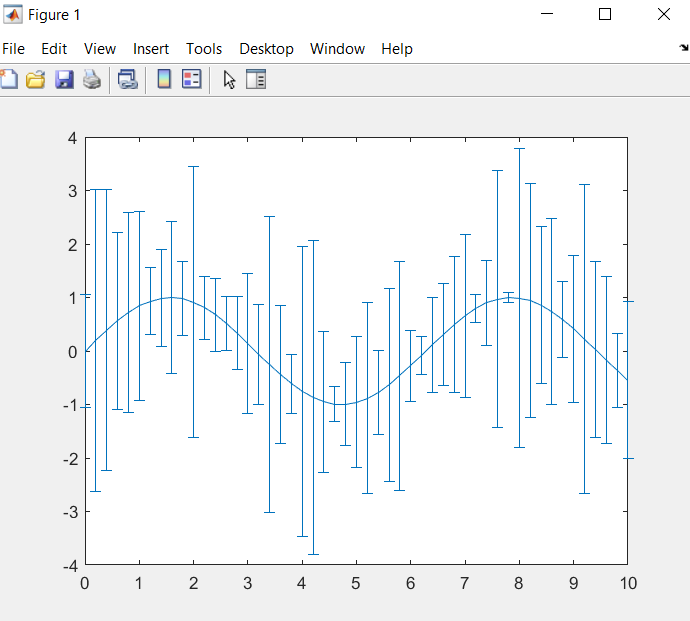
x=0:0.2:10;

y=sin(x);

eroare=3\*rand(1, length(x));

errorbar(x, y, eroare);

Tinand cont de faptul ca functia ‘rand’ genereaza valori aleatoare, la fiecare rulare e programului, lungimea segmentelor este diferita.



**7.Rezolvare exercitiu**

%ex7

for(i=1:5)

y=randn(1, 10000);

hist(y, 12);

pause(1);

end

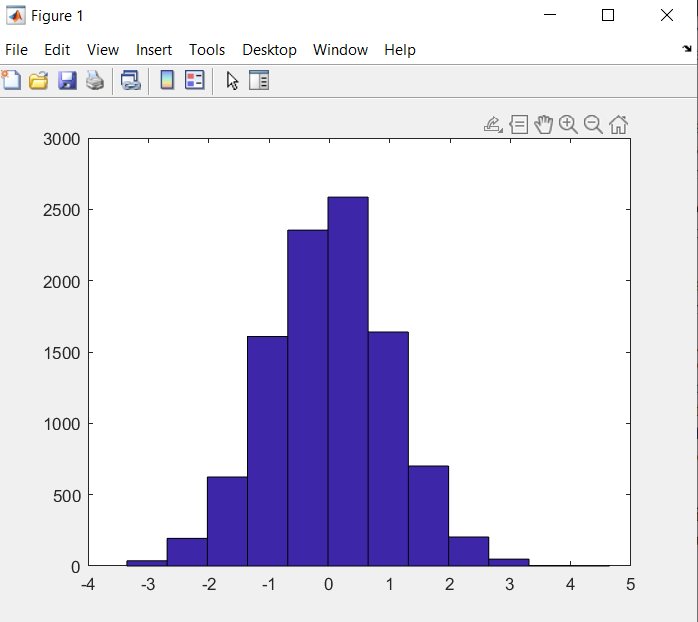
Se observa faptul ca lungimea graficului pe axa Oy se modifica de 5 ori, avand dimensiuni diferite la fiecare secunda din 5.

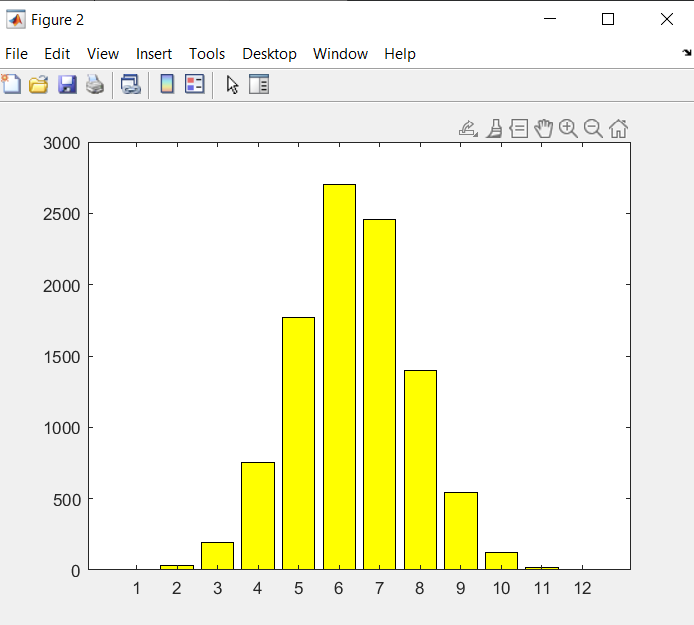
y=randn(1, 10000);

figure, bar(hist(y, 12), 'y ');

pause(3);

close all;





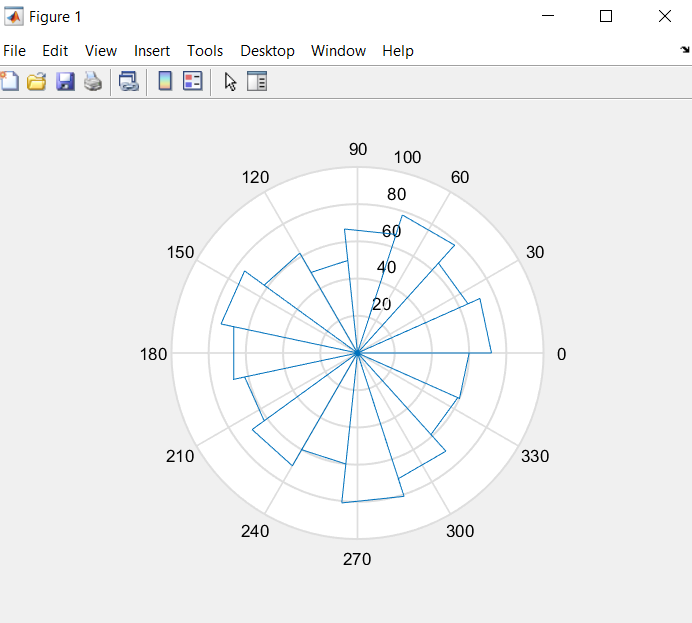
**8.Rezolvare exercitiu**

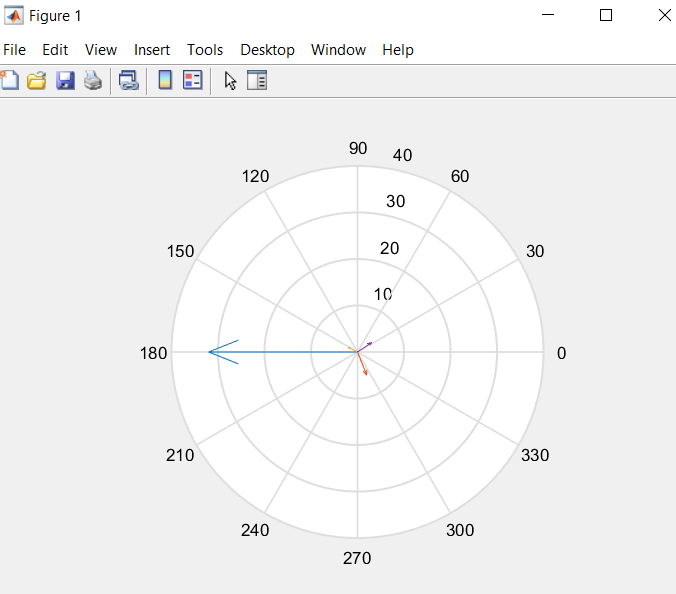
%ex8

y=rand(1, 1000);

x=2\*pi\*y;

rose(x, 15);

****

**9.Rezolvare exercitiu**

%ex9

z1=3-7.\*i;

z2=2-5.\*1i;

z3=-2+1i;

z4=3+2.\*1i;

compass(z1);

hold on

compass(z2);

compass(z3);

compass(z4);

hold off

figure, feather(z1);

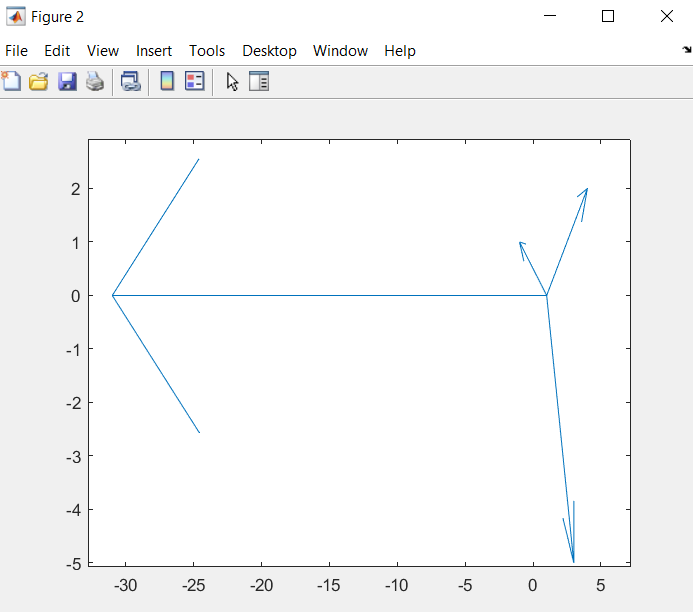
hold on

feather(z2);

feather(z3);

feather(z4);

hold off

****

**10.Rezolvare exercitiu**

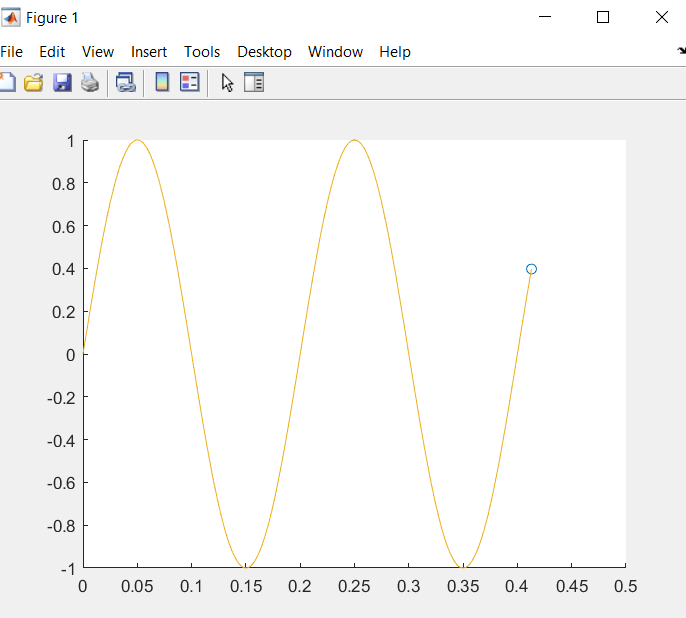
%ex10

t= input('t=');

y=sin(10\*pi\*t);

comet(t,y,0.002)

Observam ca in momentul in care pasul lui t este mai mic, timpul pentru unirea punctelor de pe grafic este mai lung, iar daca pasul este mai mare, timpul de executie este mai rapid.

****

**11.Rezolvare exercitiu**

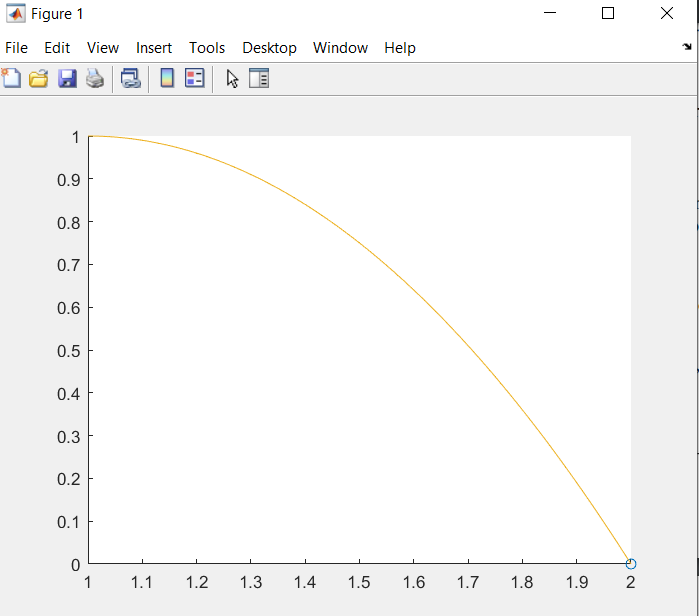
%ex11

t=-1:0.01:1 ;

x=1+abs(t);

y=abs(1-t.^2);

comet(x, y);

****

**12.Rezolvare exercitiu**

%ex12

unghi =linspace(0, 2\*pi);

cxCentru= 10;

cyCentru=10;

r=7;

plot(cxCentru, cyCentru,'\*r')

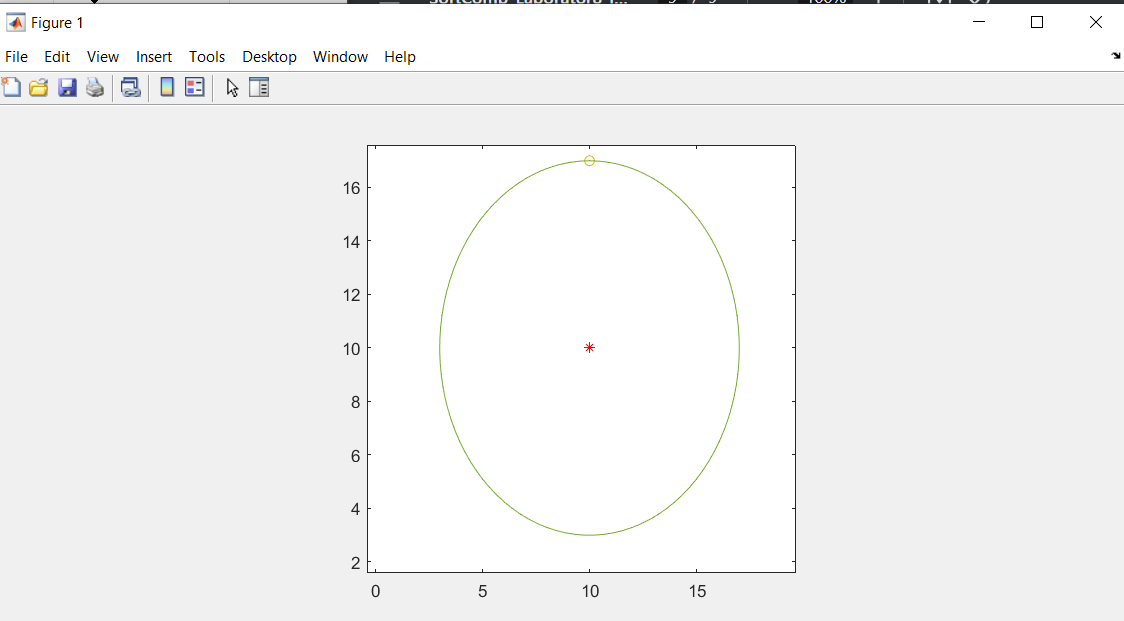
axis square

hold on

plot(cxCentru + r\*sin(unghi), cyCentru+r\*cos(unghi),'w-');

comet(cxCentru + r\*sin(unghi), cyCentru+r\*cos(unghi),0.01);

hold on

****

**13.Rezolvare exercitiu**

%ex13

t=[0 pi/2; pi/2 pi; pi 3\*pi/2; 3\*pi/2 2\*pi];

culoare='bgrk';

[lin,col]=size(t);

for ind=1:lin

unghi=linspace(t(ind, 1),t(ind, 2), 50 );

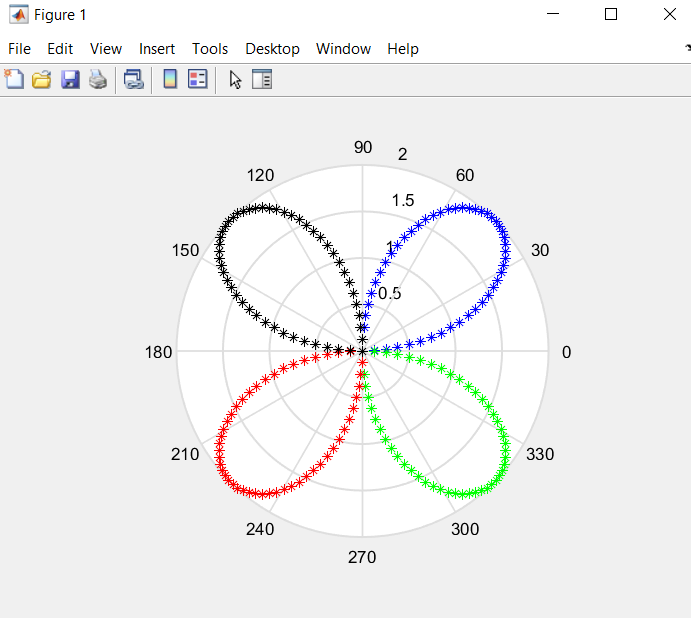
raza=2\*sin(2.\*unghi);

polar(unghi, raza, ['\*',culoare(ind)]);

pause(1), hold on

end

hold off

****

**14.Rezolvare exercitiu**

%ex14

xc=10;

yc=10;

r=5;

u=linspace(0,2\*pi);

axis equal

hold on

plot(xc,yc,'kp','MarkerSize', 30);

plot(xc+r\*sin(u),yc+r\*cos(u),'b','LineWidth', 3)

for ind=1:10:100

culoare = [rand(1,3)];

xm = xc + r \* cos(u(ind));

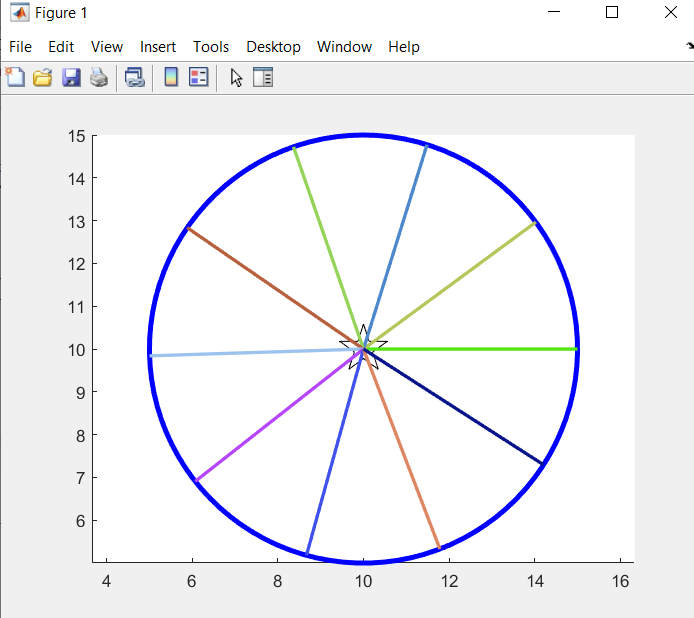
ym = yc + r \* sin(u(ind));

plot([xc,xm],[yc,ym],'Color',culoare,'LineWidth',2)

pause(1)

end

hold off

****