

پاسخ تکالیف سری دوم

سوال (1)

```
function f1()
p = input('please enter your polynomial as a vector : ');
x = input('please enter your domain : ');
y = polyval(p,x);
plot(x,y,'r*')
end
```

سوال (2)

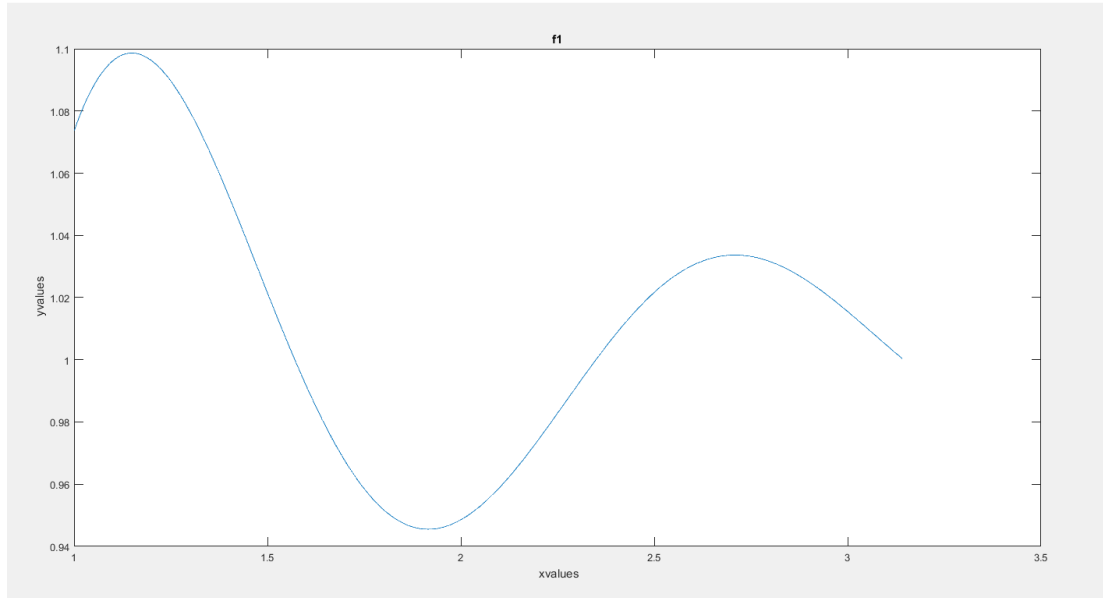
```
function [x,y] = f2()
p = input('please enter your polynomial as a vector : ');
x = input('please enter your domain : ');
y = polyval(p,x);
end
```

سوال (3)

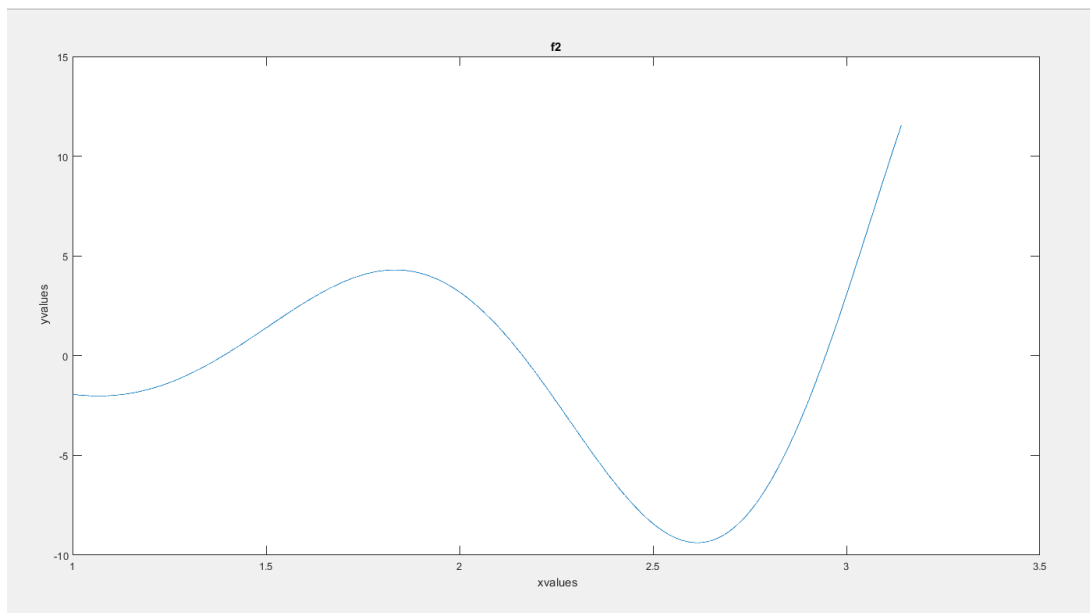
```
syms x;
f1 = 1-((x*sin(4*x)+(exp(-x))*cos(x))/((exp(x/8))*(x^3+5*(x^2)+log(x+1))));
f2 = cos(4*x)*(sinh(x)) + sin(4*x)*(cosh(x));
f3 = ((x^2)*tan(x/3))/(1+x);
y = linspace(1,pi,1000);
plot(y,subs(f1,y));title('f1')
xlabel(' xvalues');
ylabel(' yvalues');
figure
plot(y,subs(f2,y));title('f2')
xlabel(' xvalues');
ylabel(' yvalues');
figure
plot(y,subs(f3,y));title('f3')
```

```
xlabel(' xvalues');
```

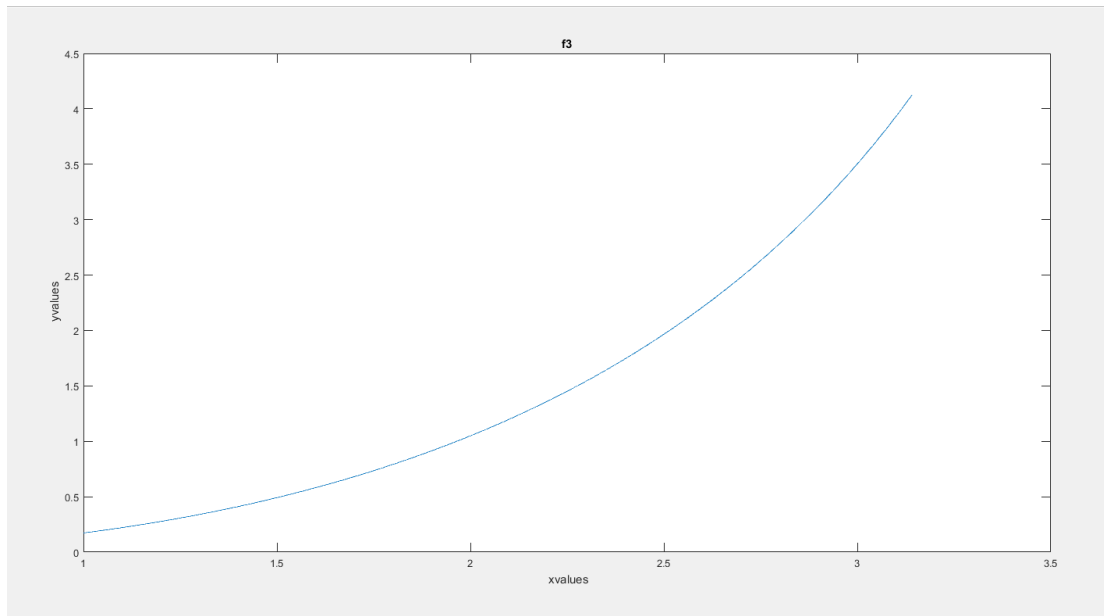
```
ylabel(' yvalues');
```



F1



F2



F3

سوال 4)

clc

clear

close all

a = rand(1,1000);

b = randn(1,1000);

c = exprnd(1,1,1000);

hist(a)

title('uniform distribution')

figure

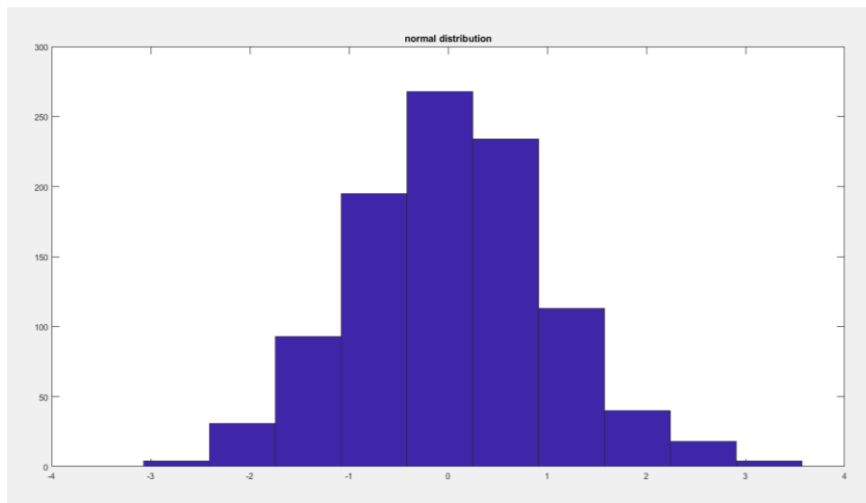
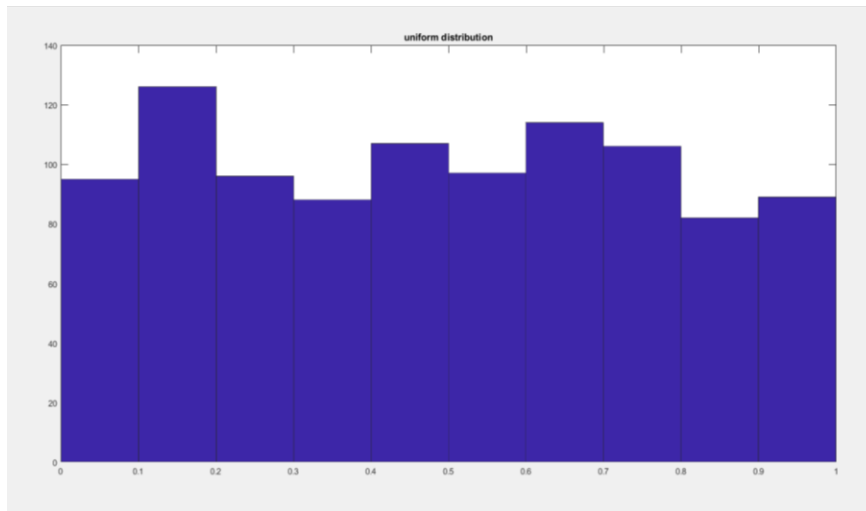
hist(b)

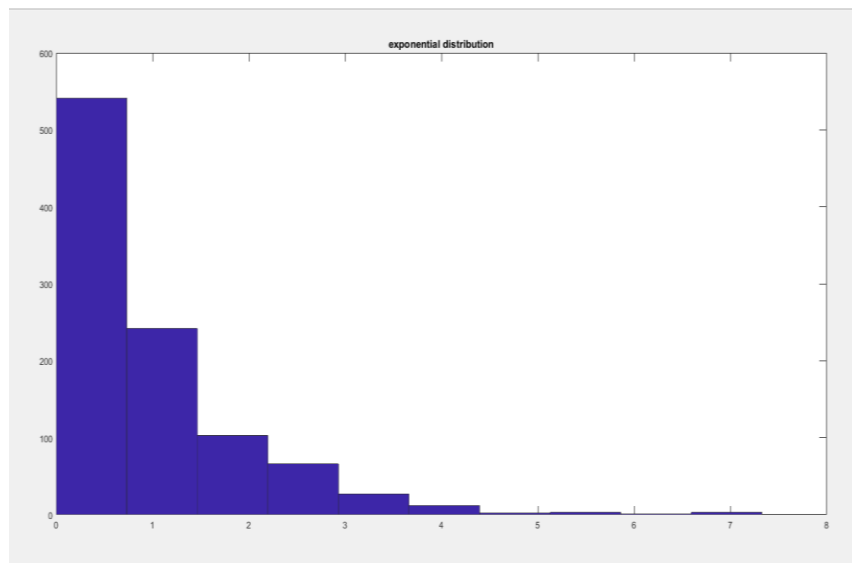
```
title('normal distribution')
```

```
figure
```

```
hist(c)
```

```
title('exponential distribution')
```





سوال 5)

الف: با دستور `fplot` میشود برای رسم توابع پارامتری به صورت صریح استفاده کرد، برای مثال در عبارت `fplot(fun,lims)` ، عبارت `fun` تابعی صریح از متغیر مستقلی مانند `x` و عبارت `lims` محدوده را تعیین می کند.

برای مثال میتوان نوشت :

```
fplot(@sin)
```

```
fplot(@(x) x.^2.*sin(1./x),[-1,1])
```

```
fplot(@(x) sin(1./x), [0 0.1])
```

ب:

```
function s = sinm(x)
```

```
s = sin(x)/(2*x);
```

```
end
```

ج:

```
clc
```

```
clear
```

close all

fplot(@(x) sinm(x), [-10 10])

grid on

title("The function $\sin(x)/(2*x)$ ")

