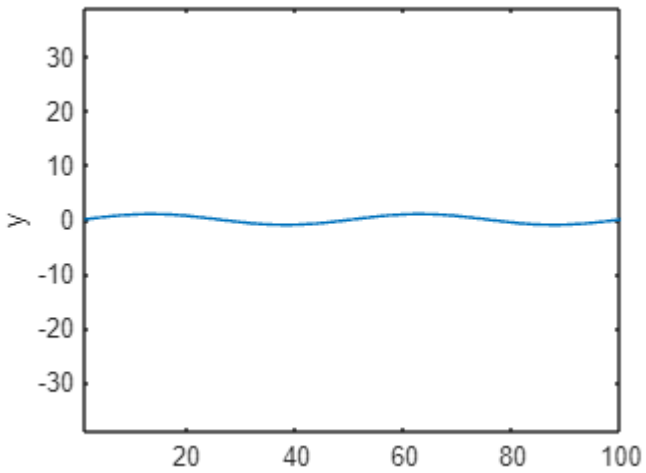
question 1)

```
x=linspace(-2*pi,2*pi,100);
y=sin(x)
```

```
y = 1×100
    0.0000    0.1266    0.2511    0.3717    0.4862    0.5929    0.6901    0.7761 ···
```

```
plot(y)
axis('equal')
ylabel('y')
```



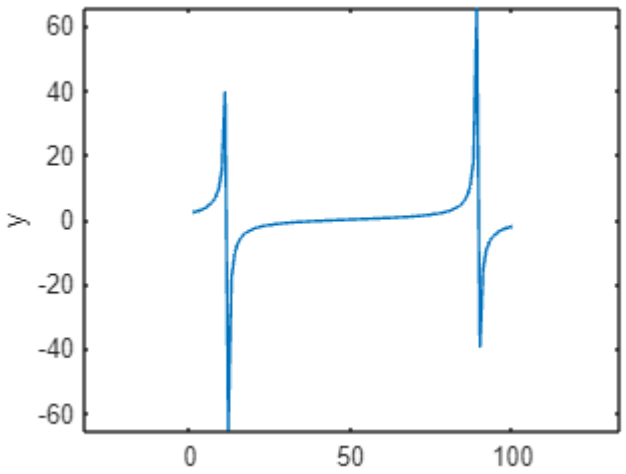

```

```

question 2)

```
x=linspace(-2,2,100);
y=tan(x)
```

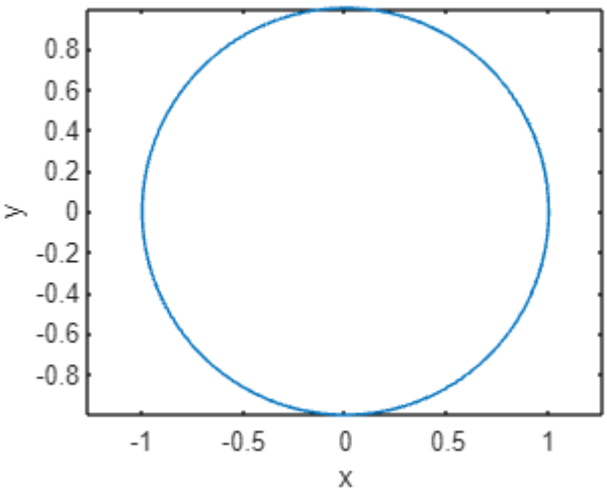
```
y = 1×100
    2.1850    2.4411    2.7532    3.1435    3.6475    4.3257    5.2915    6.7829 ···
```

```
plot(y)
axis('equal')
ylabel('y')
```



question 3)

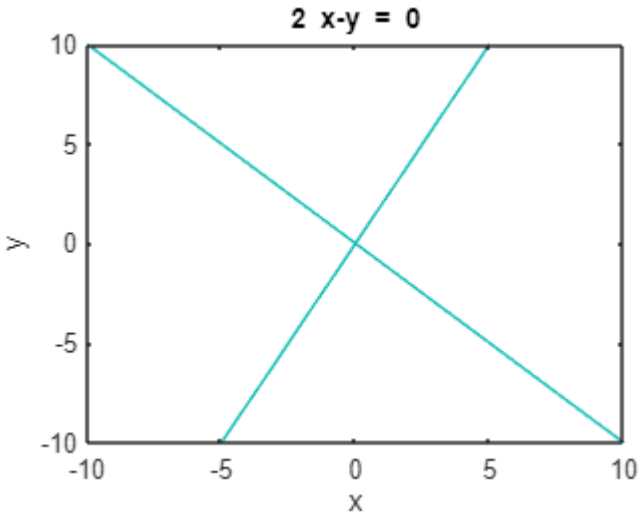
```
theta=linspace(0,2*pi,100);
x=cos(theta);
y=sin(theta);
plot(x,y)
axis('equal')
xlabel('x')
ylabel('y')
```



question 14)

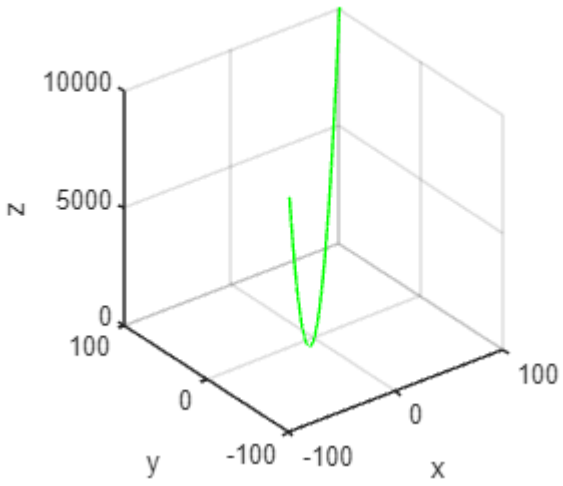
```
ezplot('x+y',[-10,10])
```

```
hold on
ezplot('2*x-y',[-10,10])
hold off
```



question 7)

```
t=-100:0.1:100;
plot3(t,t,t.^2,'color','green')
grid on
axis square
xlabel('x')
ylabel('y')
zlabel('z')
```



quesion 4)

```
theta = linspace(0,2*pi,100)
```

```
theta = 1×100
         0    0.0635    0.1269    0.1904    0.2539    0.3173    0.3808    0.4443 ···
```

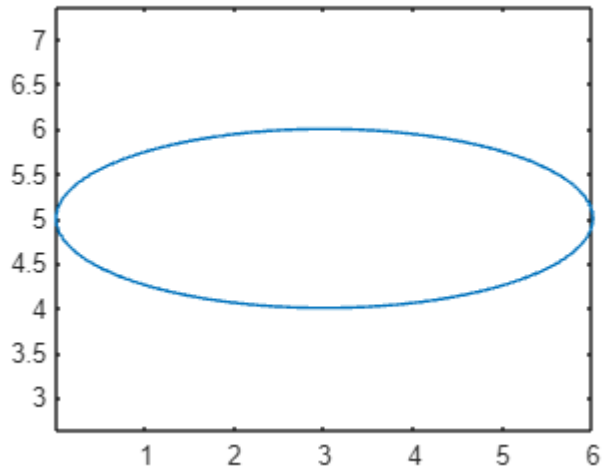
```
x=3+cos(theta)*3
```

```
x = 1×100
    6.0000    5.9940    5.9759    5.9458    5.9038    5.8502    5.7851    5.7088 ···
```

```
y=5+sin(theta)
```

```
y = 1×100
    5.0000    5.0634    5.1266    5.1893    5.2511    5.3120    5.3717    5.4298 ···
```

```
plot(x,y)
axis('equal')
```




```

```

question 5)

```
theta=linspace(0,pi/2,pi)
```

```
theta = 1×3
         0    0.7854    1.5708
```

```
x=5*cos(theta)
```

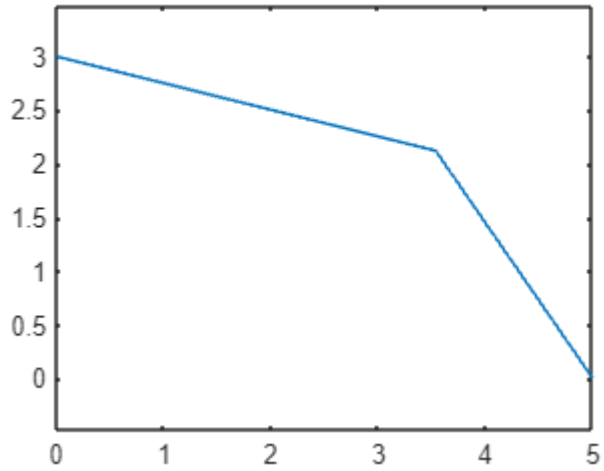
```
x = 1×3
    5.0000    3.5355    0.0000
```

```
y=3*sin(theta)
```

```
y = 1×3
         0    2.1213    3.0000
```

```
plot(x,y)
```

```
axis('equal')
```



question 6)

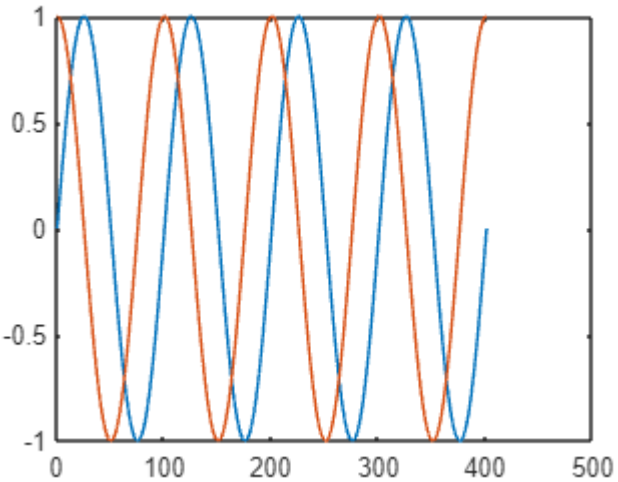
```
x=-4*pi:pi/50:4*pi;
y=sin(x)
```

```
y = 1×401
    0.0000    0.0628    0.1253    0.1874    0.2487    0.3090    0.3681    0.4258 ···
```

```
plot(y)
hold on
y=cos(x)
```

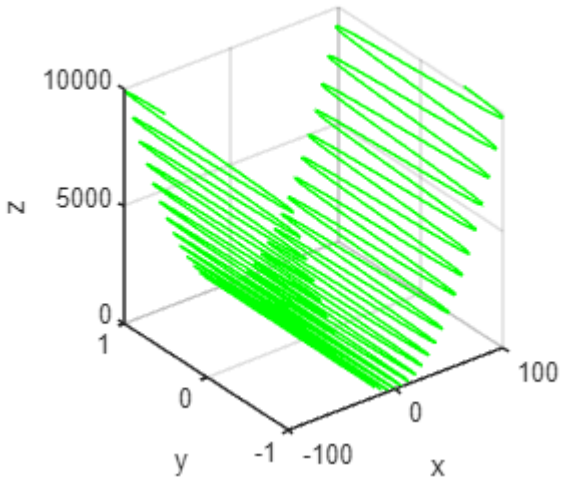
```
y = 1×401
    1.0000    0.9980    0.9921    0.9823    0.9686    0.9511    0.9298    0.9048 ···
```

```
plot(y)
hold off
```



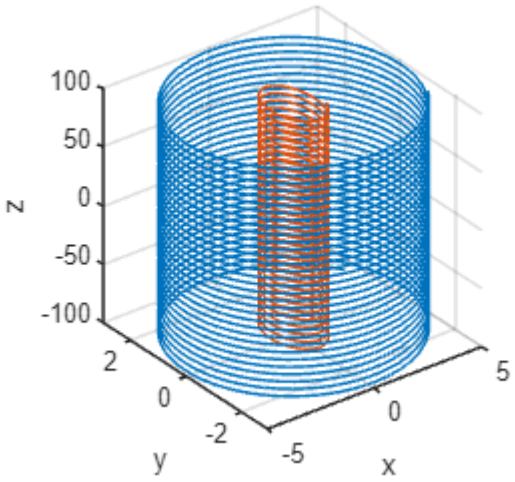
question 8)

```
t=-100:0.1:100;
plot3(t,sin(t),t.^2,'color','green')
grid on
axis square
xlabel('x')
ylabel('y')
zlabel('z')
```



question 9)

```
linspace(-4*pi,4*pi,pi/50);
plot3(5*cos(t),3*sin(t),t+1)
hold on
grid on
axis square
xlabel('x')
ylabel('y')
zlabel('z')
plot3(cos(t),sin(t),t)
grid on
axis square
xlabel('x')
ylabel('y')
zlabel('z')
hold off
```



qustion 10)

```
x=linspace(0,1,50)
```

```
x = 1×50
         0    0.0204    0.0408    0.0612    0.0816    0.1020    0.1224    0.1429 ···
```

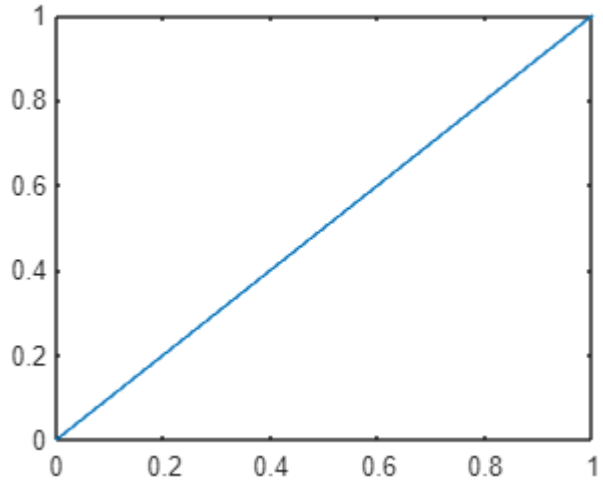
```
y1=(x<=1).*(x);
y2=(x>1 & x <= 2).*(1);
y3=(x>=2 & x <= 3).*(3-x)
```

```
y3 = 1×50
     0     0     0     0     0     0     0     0     0     0     0     0     0 ···
```

```
y=y1+y2+y3
```

```
y = 1×50
         0    0.0204    0.0408    0.0612    0.0816    0.1020    0.1224    0.1429 ···
```

```
plot(x,y)
```



question 11)

```
x=linspace(-10,-5,-1)
```

```
x =

  1×0 empty double row vector
```

```
y1=(x <= -1).*(1);
y2=(x>-1 & x <= 1).*(-x);
y3=(x>=1 & x <= 10).*(x-2)
```

```
y3 =

  1×0 empty double row vector
```

```
y=y1+y2+y3
```

```
y =

  1×0 empty double row vector
```

```
plot(x,y)
```

qustion 12)

```
x=linspace(-3*pi/2,pi/50,3*pi/2)
```

```
x = 1×4
   -4.7124   -3.1206   -1.5289    0.0628
```

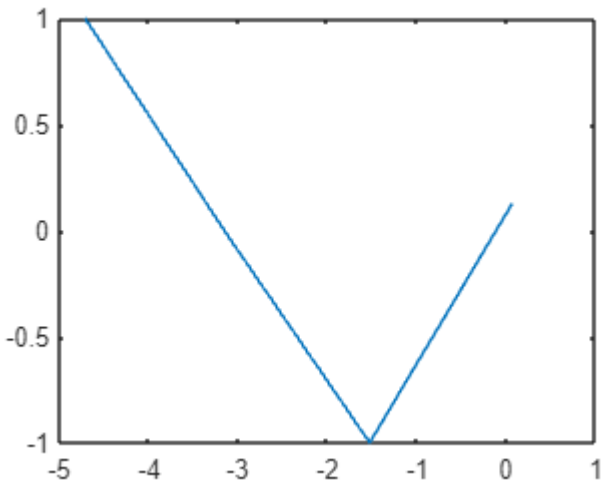
```
y1=(x<=0).*(sin(x));
y2=(x>0 & x<=pi/50).*(2*x);
y3=(x>=2 & x<=3).*(pi-cos(x))
```

```
y3 = 1×4
     0     0     0     0
```

```
y=y1+y2+y3
```

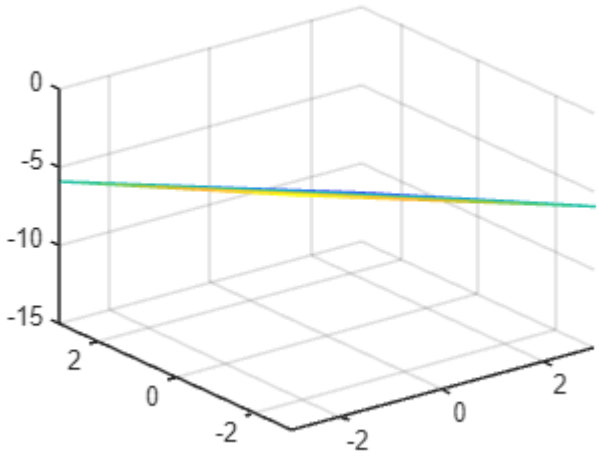
```
y = 1×4
    1.0000   -0.0209   -0.9991    0.1257
```

```
plot(x,y)
```



question 15)

```
[X,Y]=meshgrid(-3:0.5:3);
mesh(X,Y,-X-Y-6)
hold on
```




```
mesh(X,Y,3-2*x+y)
```

```
Error using mesh
Z must be a matrix, not a scalar or vector.
```

```
hold on
mesh(X,Y,8-3*x-2*y)
hold off
```