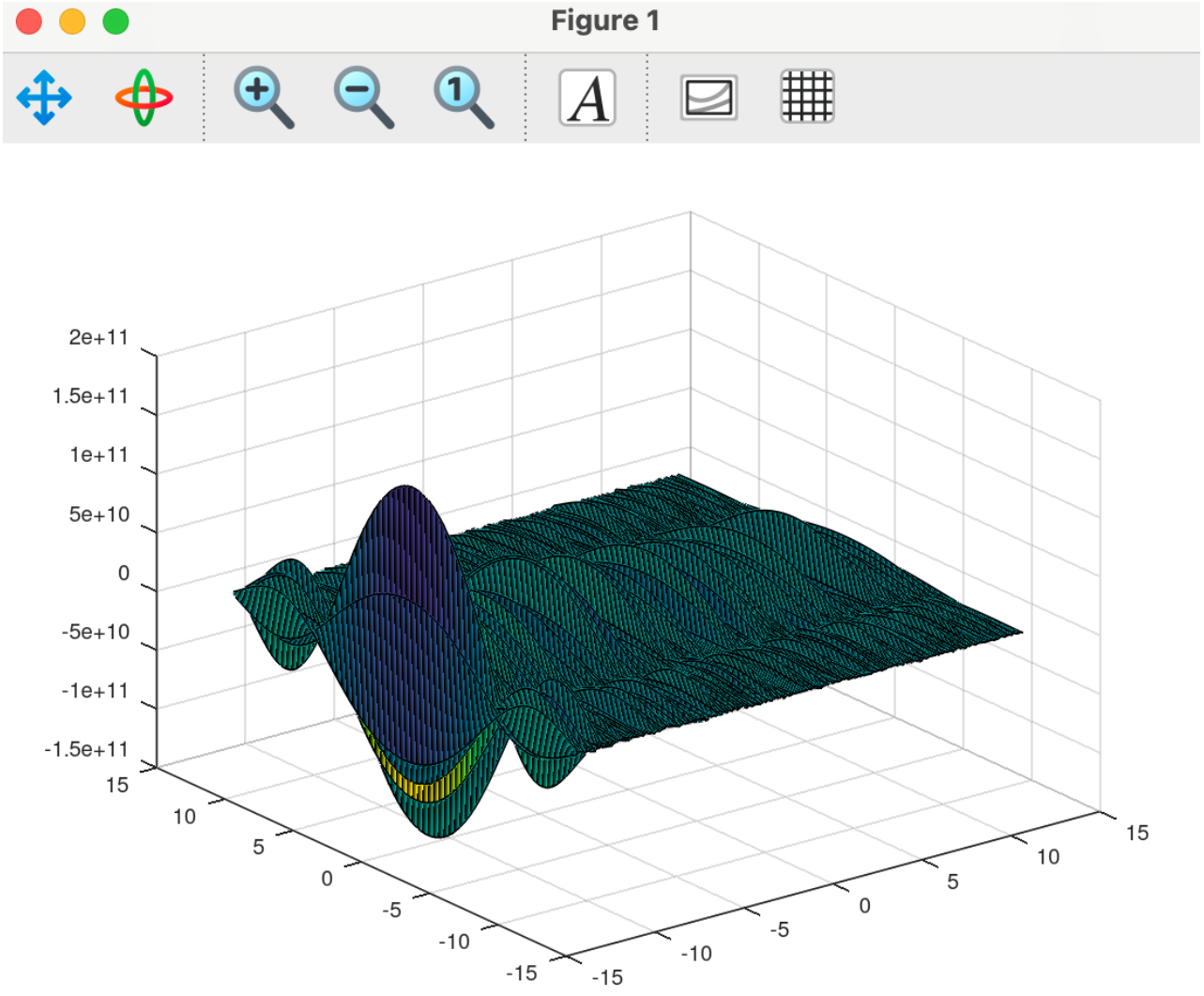
```
# Assignment 11 Question 1


x = -4*pi:0.1:4*pi;

y = -4*pi:0.1:4*pi;

[X, Y] = meshgrid(x, y);


R = sqrt(X.^2+Y.^2);

z = (sin(R))/ R;

surf(X, Y, z)
```

output

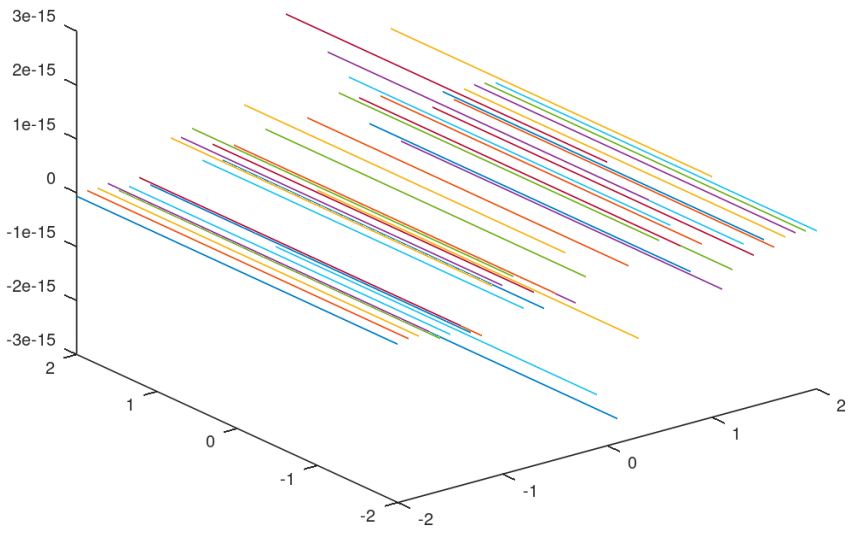


Assignment 11 Question 2

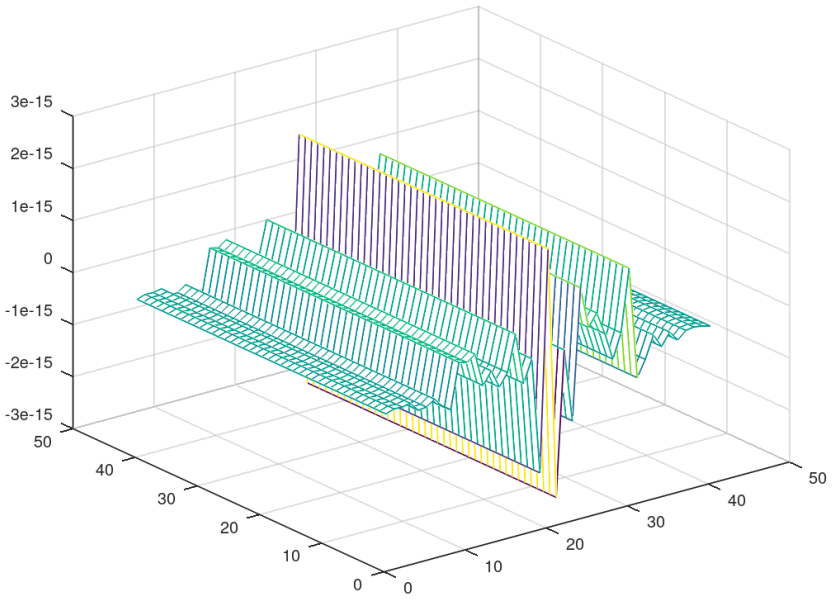
```
x = -2:0.1:2
y = -2:0.1:2
[X, Y] = meshgrid(x, y);
z = 2*X*exp(-(X.^2+Y.^2));

plot3(X, Y, z)
mesh(z)
contour(X, Y ,z)
surf(X, Y, z)
shading interp
waterfall(X, Y, z)
pcolor(X, Y, z)
shading interp
meshc(z)
surfc(z)
```

output

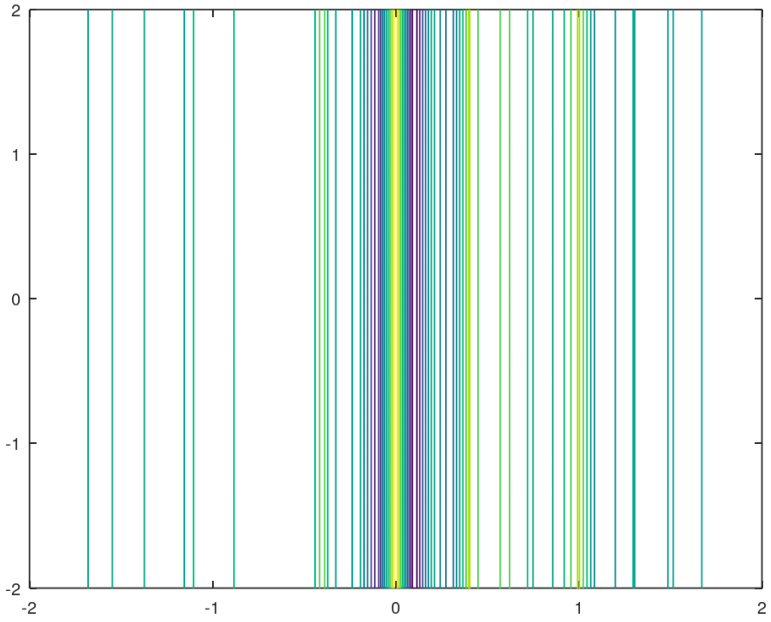
a)



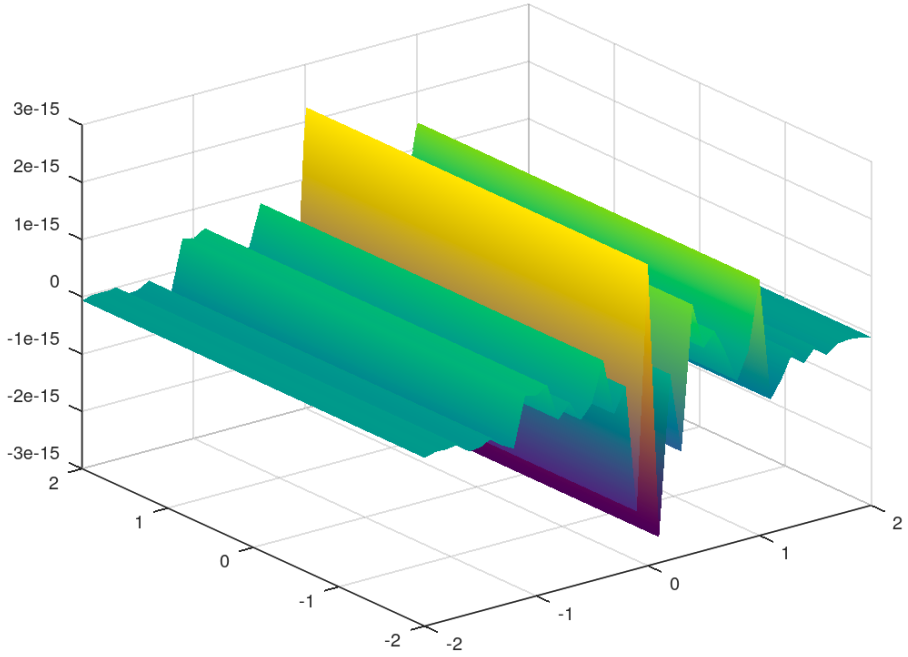
b)


3e-15
2e-15
1e-15
0
-1e-15
-2e-15
-3e-15
50
40
30
20
10
0
0
10
20
30
40
50

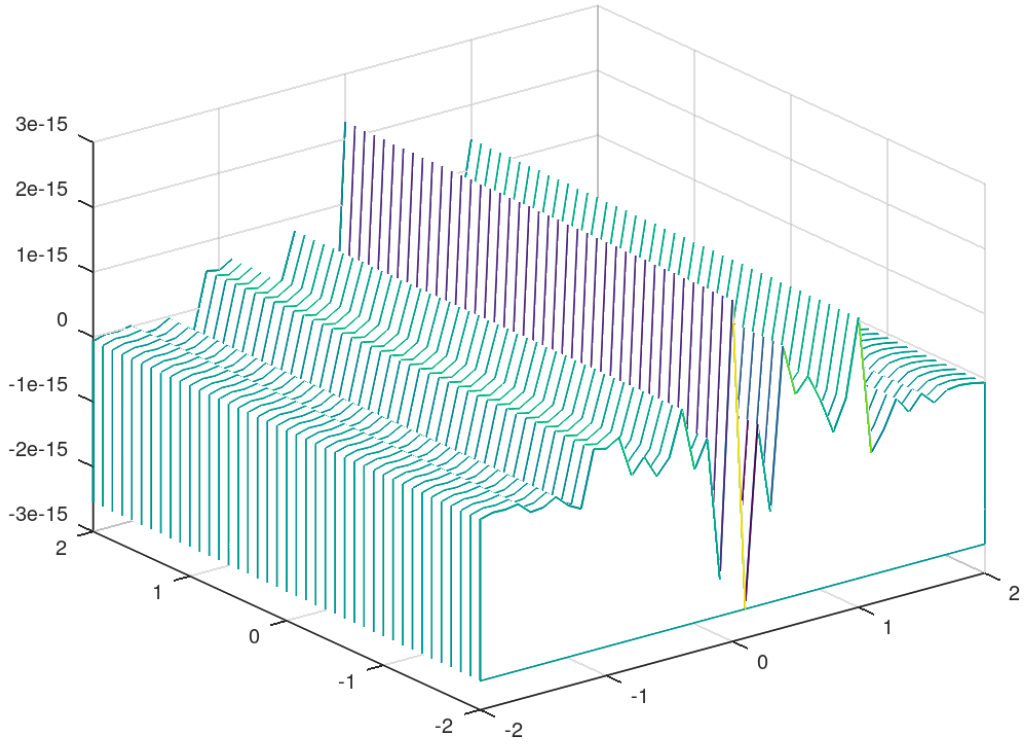
c)


2
1
0
-1
-2
-2
-1
0
1
2

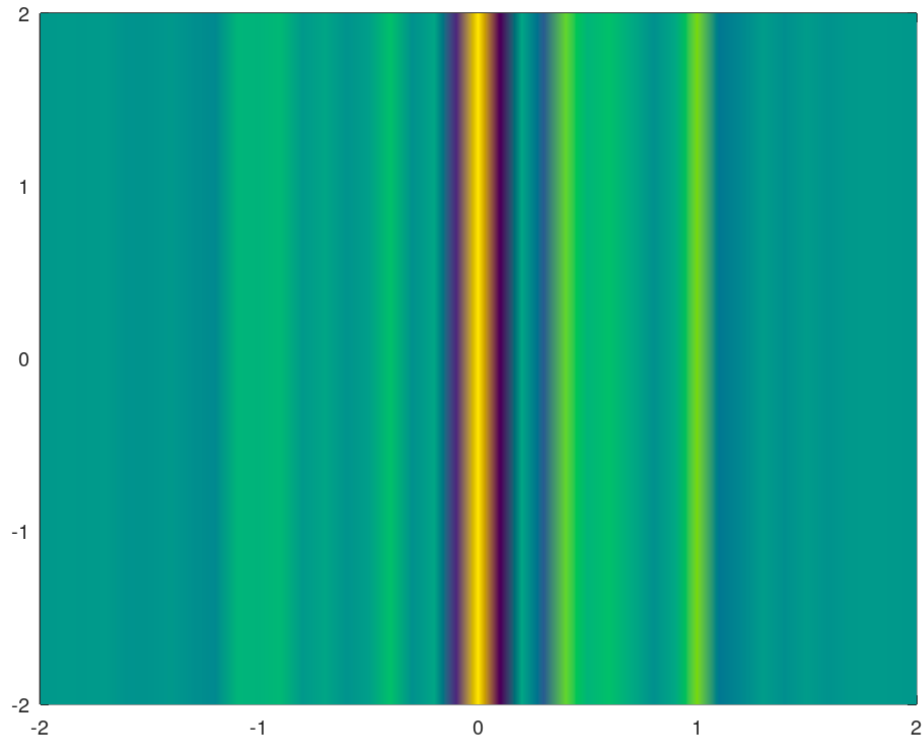
d)


3e-15
2e-15
1e-15
0
-1e-15
-2e-15
-3e-15
2
1
0
-1
-2
-2
-1
0
1
2

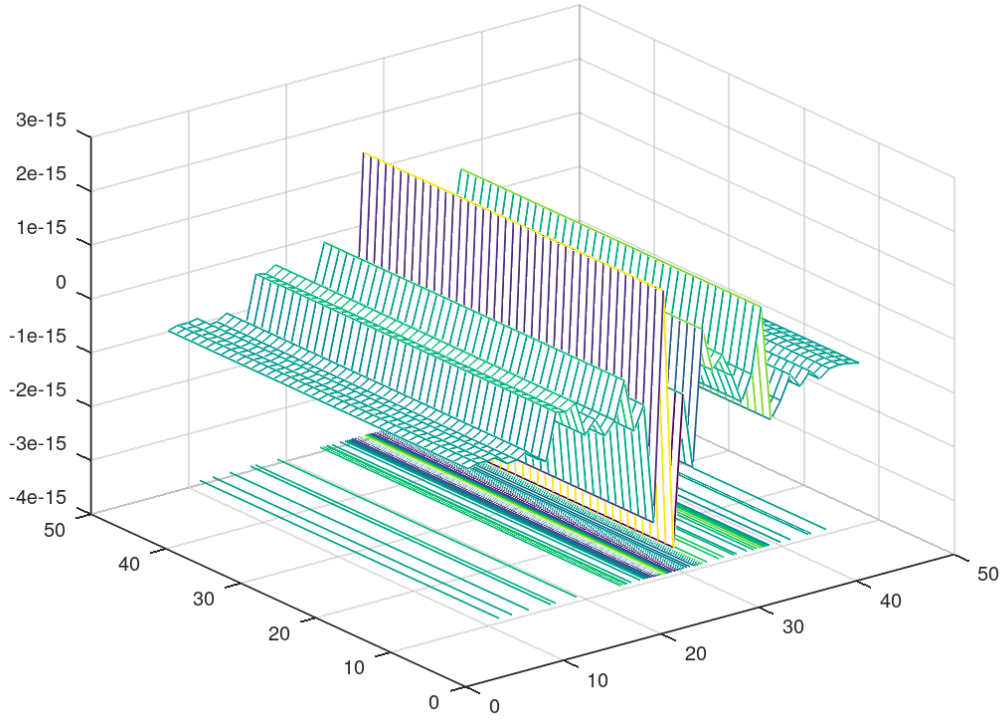
e)


3e-15
2e-15
1e-15
0
-1e-15
-2e-15
-3e-15
2
1
0
-1
-2
-2
-1
0
1
2

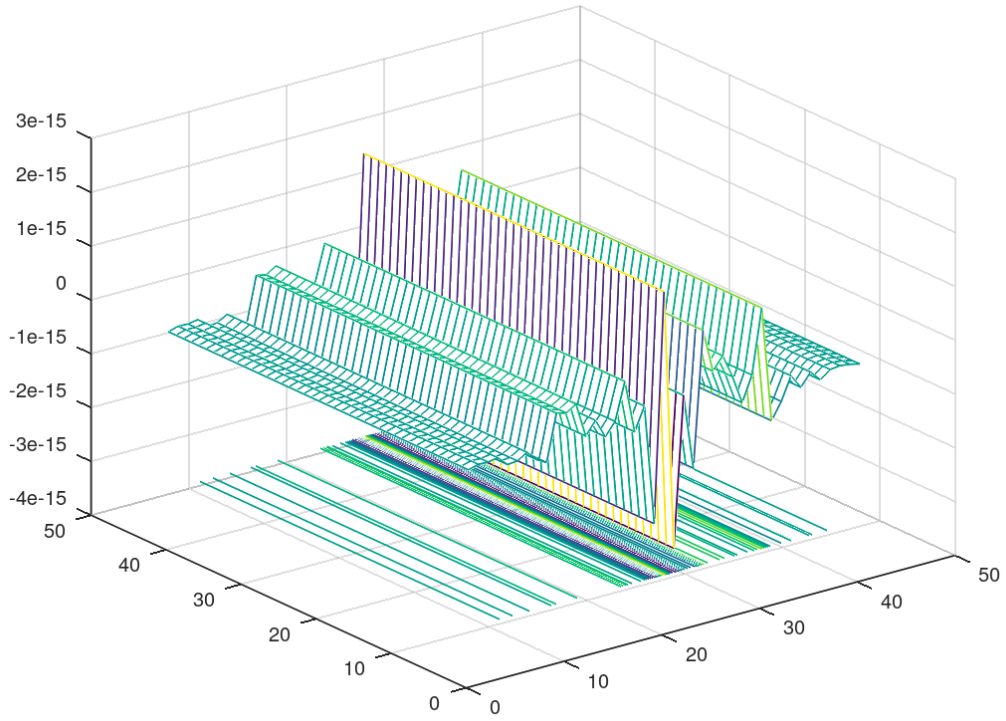
f)


2
1
0
-1
-2
-2
-1
0
1
2

g)

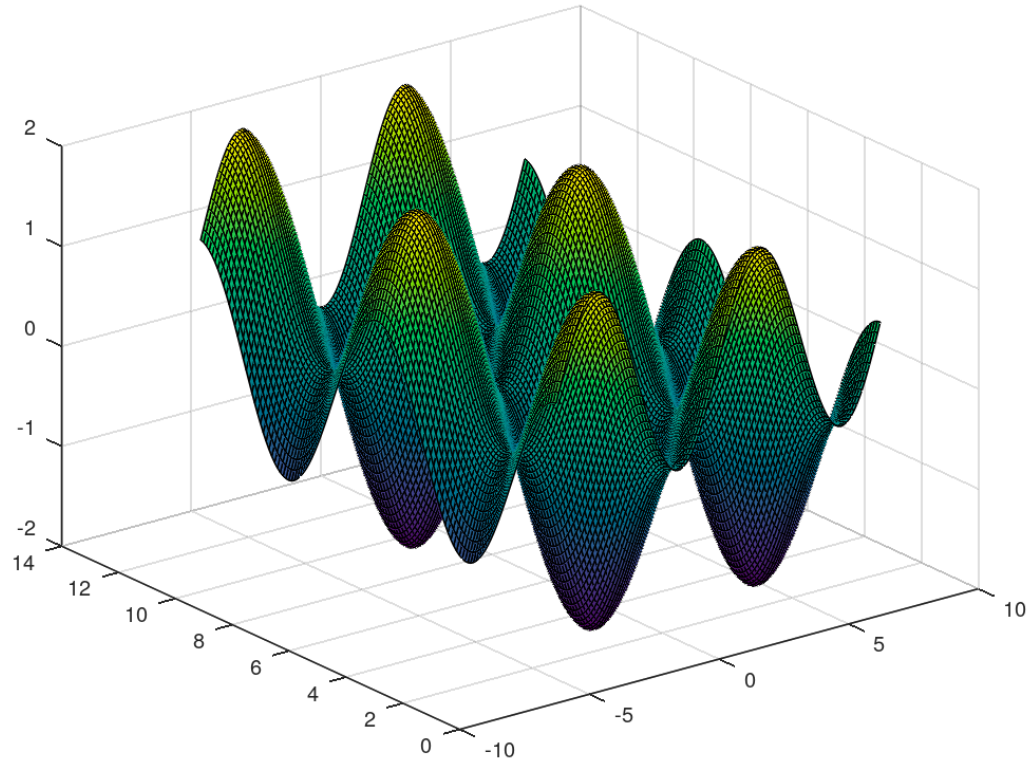

3e-15
2e-15
1e-15
0
-1e-15
-2e-15
-3e-15
-4e-15
50
40
30
20
10
0
0
10
20
30
40
50

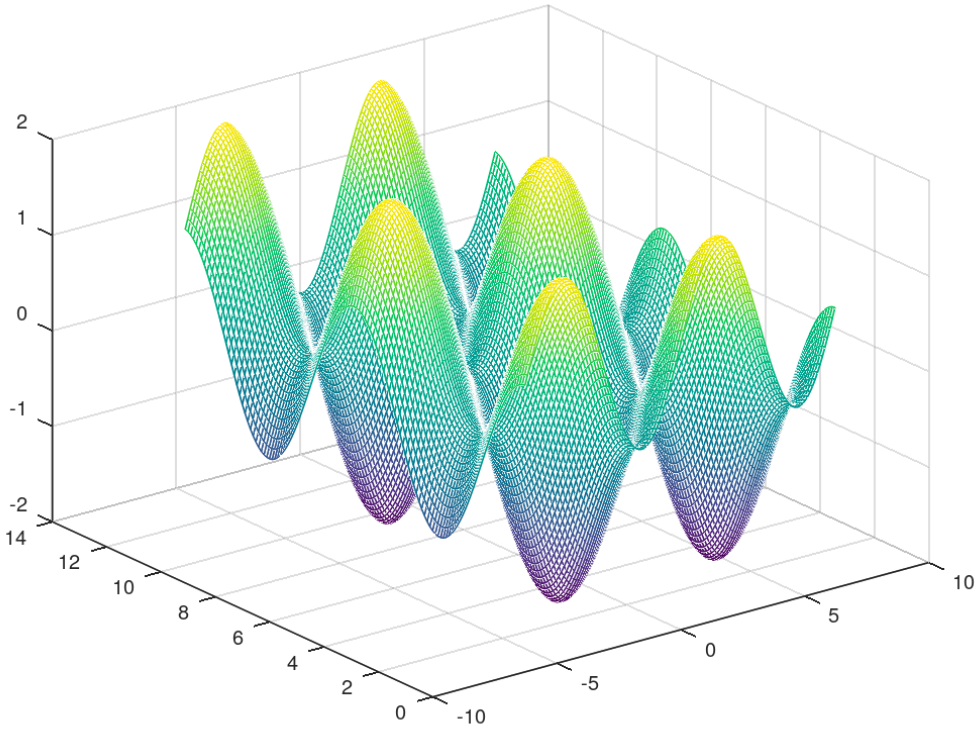
h)

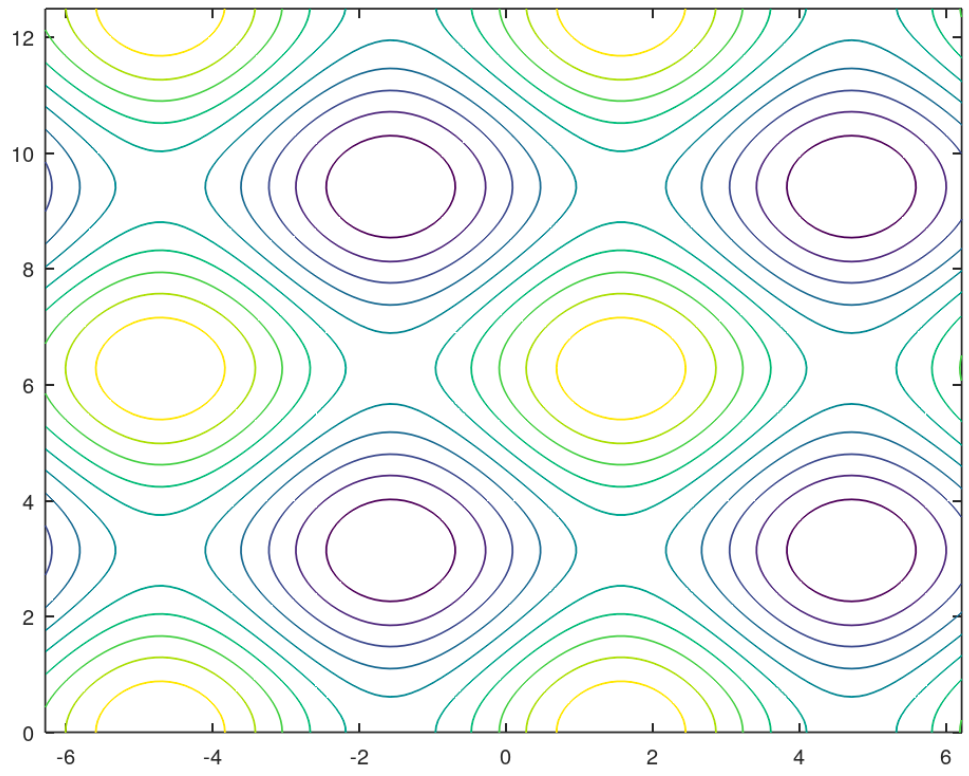

3e-15
2e-15
1e-15
0
-1e-15
-2e-15
-3e-15
-4e-15
50
40
30
20
10
0
0
10
20
30
40
50

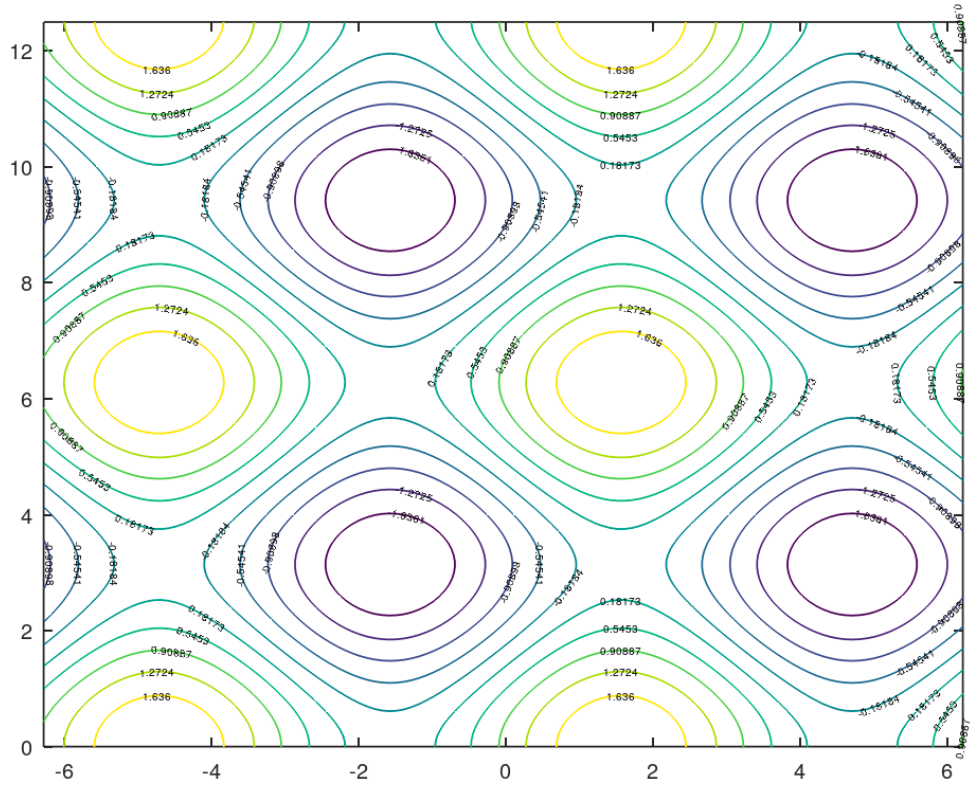
```
# Assignment 11 Question 3

x = -2*pi:0.1:2*pi;
y = 0:0.1:4*pi;

[X, Y] = meshgrid(x, y);

z = sin(X) + cos(Y);

surf(X, Y, z)
mesh(X, Y, z)
contour(X, Y, z)

[c h] = contour(X, Y, z);

clabel(c, h)
```

output




2
1
0
-1
-2
14
12
10
8
6
4
2
0
-10
-5
0
5
10


12
10
8
6
4
2
0
-6
-4
-2
0
2
4
6


12
10
8
6
4
2
0
-6
-4
-2
0
2
4
6