

### Задание №3 – трёхмерная графика

```
Current Folder: %-- 15.05.2019 16:27 --%
%-- 15.05.2019 16:30 --%
[X,Y] = meshgrid(0:.02:1);
Z = X^2+Y^2;
mesh(X,Y,Z)
[X,Y] = meshgrid(-2:.01:2);
Z = exp(-(X.^2)./2+(Y.^2)./2));
mesh(X,Y,Z)
N=1;
[X,Y] = meshgrid(-2:0.01:2);
Z = N/2.*sin(2*pi.*X).*cos(1.5*pi.*X).*(1-X.^2).*Y.*X.*(1-Y);
mesh( X, Y, Z )
surfc(X,Y,Z)
[X,Y] = meshgrid(-2:2);
surfc(X,Y,Z)
[X,Y] = meshgrid(-2:0.01:2);
shading flat
title('Flat Shading')
surfc(X,Y,Z)
shading flat;
title('Flat Shading');
surfc(X,Y,Z);
shading interp
surf(X,Y,Z);
shading flat;
mesh( X, Y, Z );
shading flat;
shading interp
mesh( X, Y, Z );
surf(X,Y,Z);
```

```

surf(X,Y,Z);
shading interp
surf(X,Y,Z);
shading flat;
mesh( X, Y, Z );
shading flat;
shading interp
mesh( X, Y, Z );
surf(X,Y,Z);
meshc(X,Y,Z)
colorbar
colorbar;
mesh(X,Y,Z)
colorbar;
contour3(X,Y,Z,40)
contour(X,Y,Z,20)
colorbar;
contourf(X,Y,Z,20)
C = contour(X, Y, Z);
clabel(C)
mesh( X, Y, Z )
surf(X, Y, Z);colormap(jet); shading interp
clabel(C)
help colormap

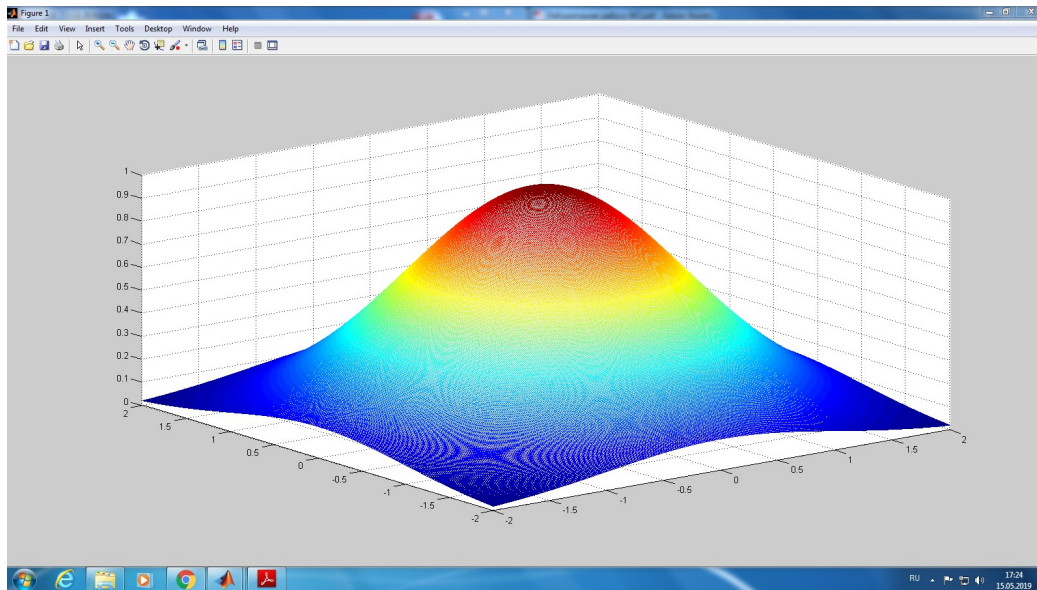
```

```

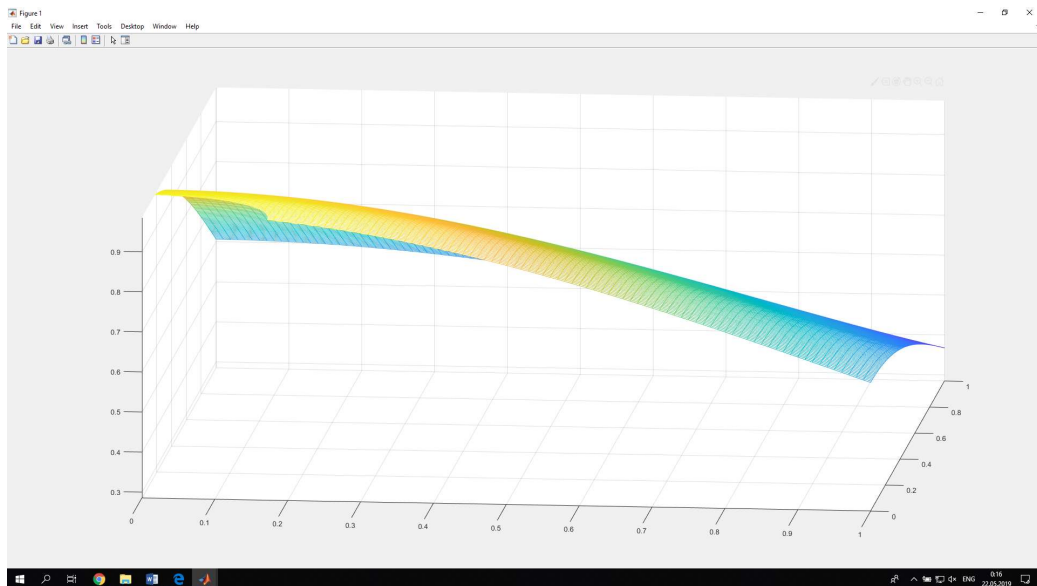
>> a=1;
b=1;
c=1;
u = (-2:0.1:2)';
v = [0:0.05*pi:2*pi];
Z = a*u*cos(v);
X = b*u*sin(v);
Y = c*u*ones(size(v));
figure('Color','w')
hS=mesh(X,Y,Z);

```

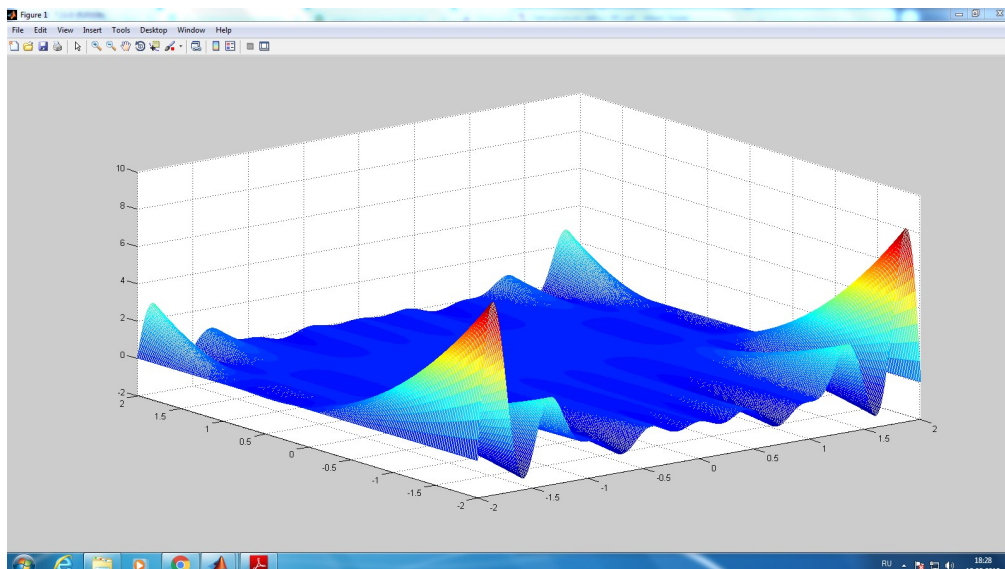
3,1



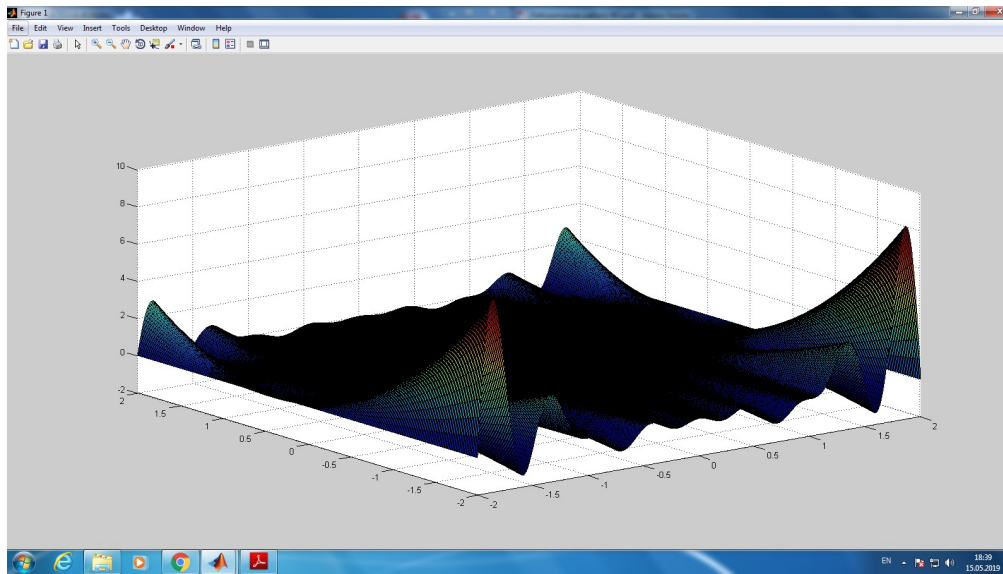
3,2



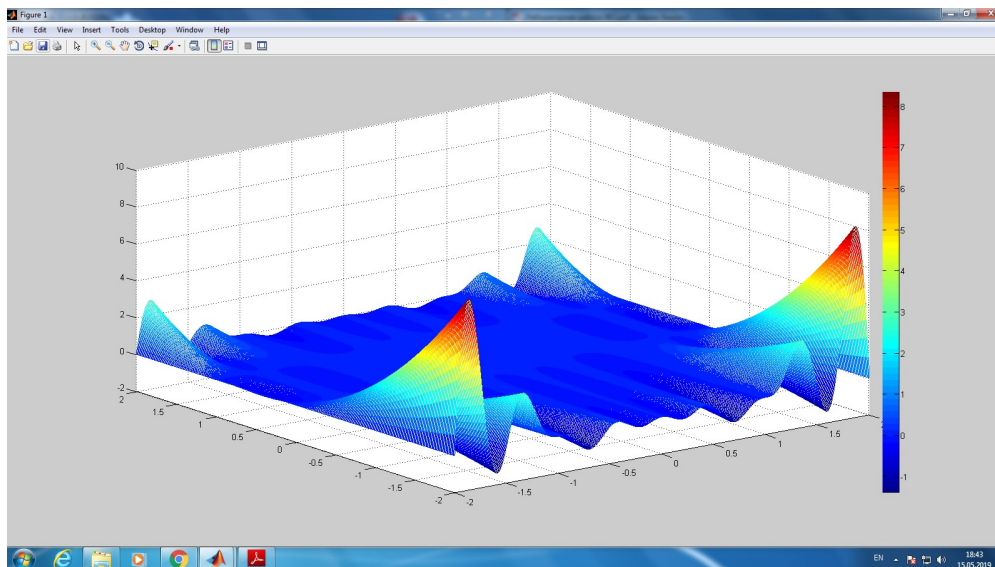
3,3



3.4

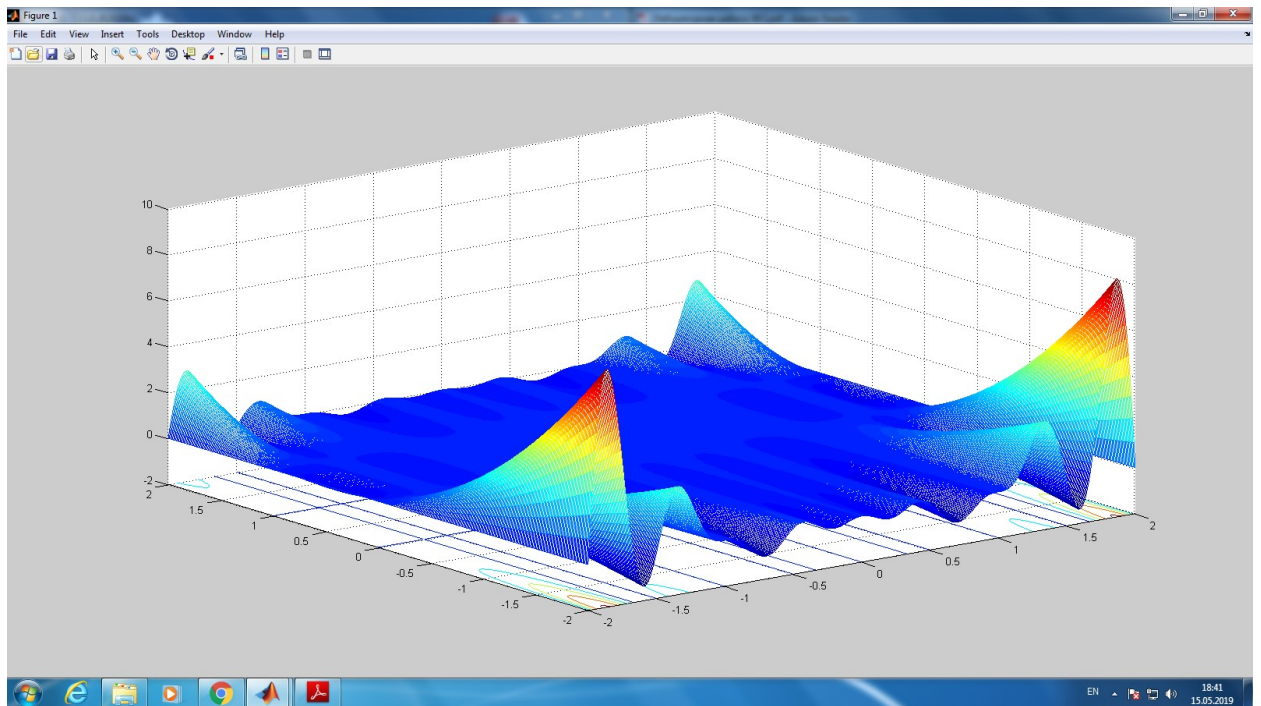


3.5

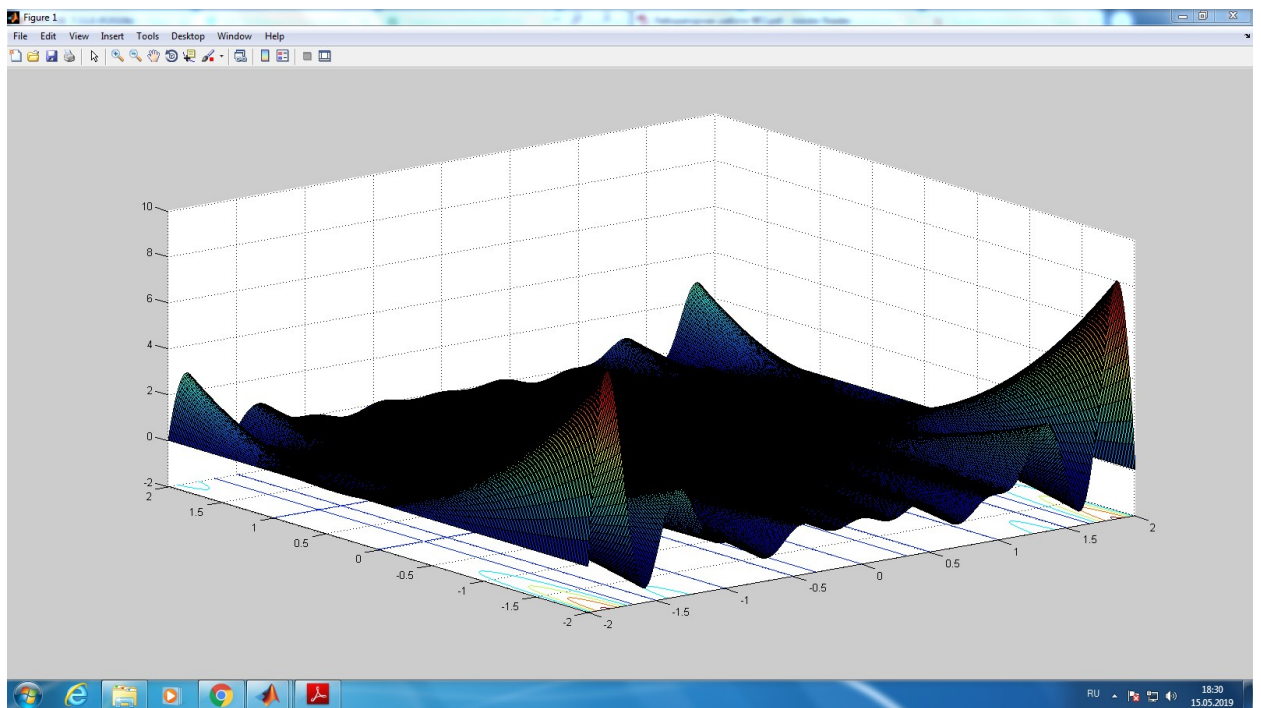


### 3.6

#### meshc

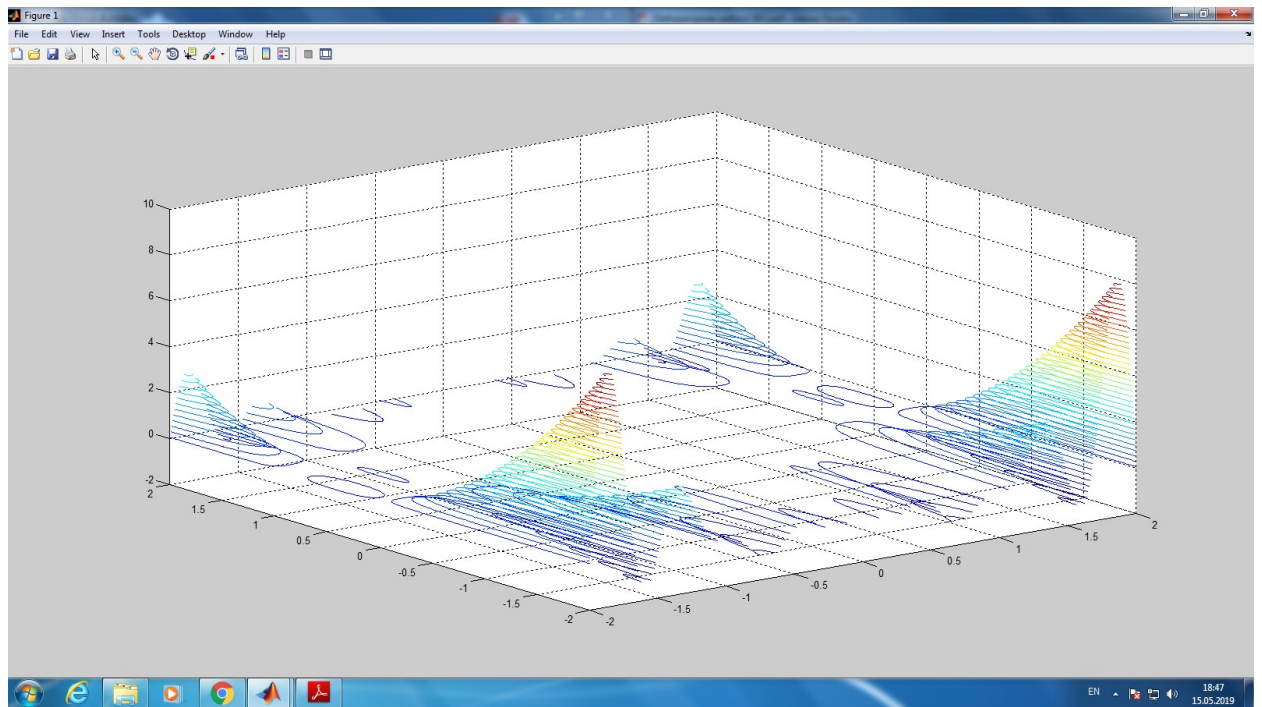


#### surf



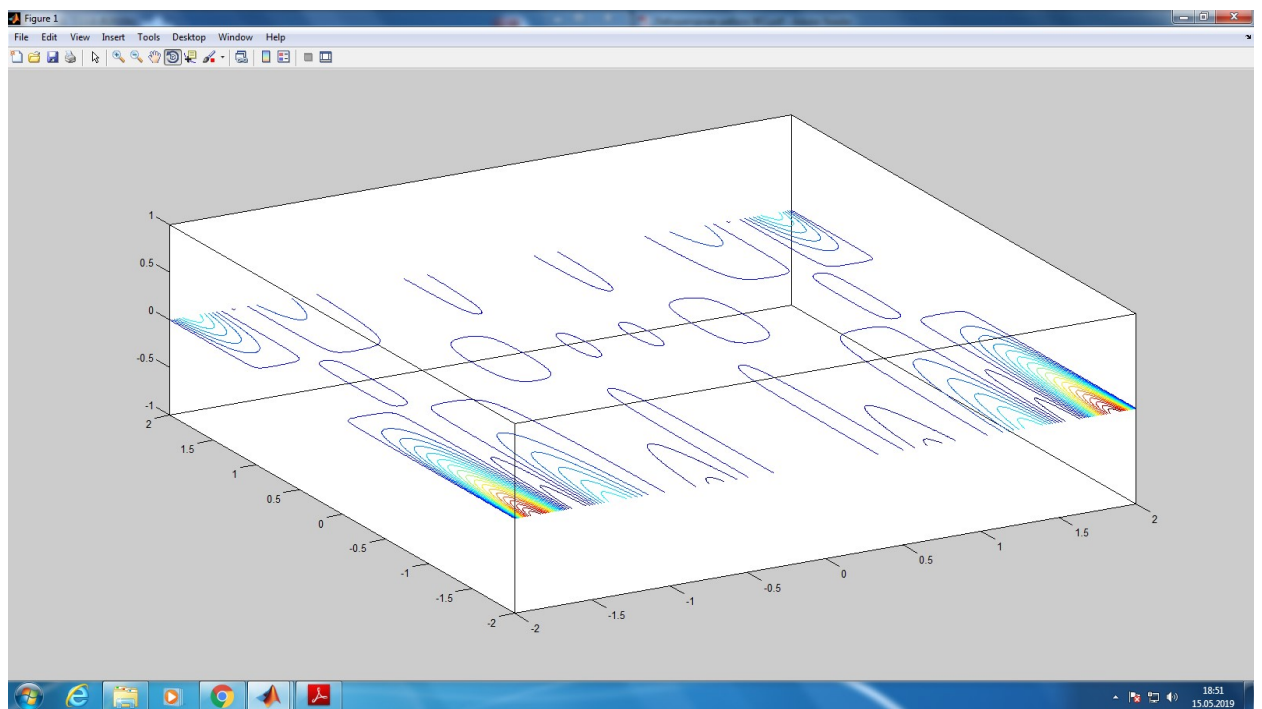


### 3.7

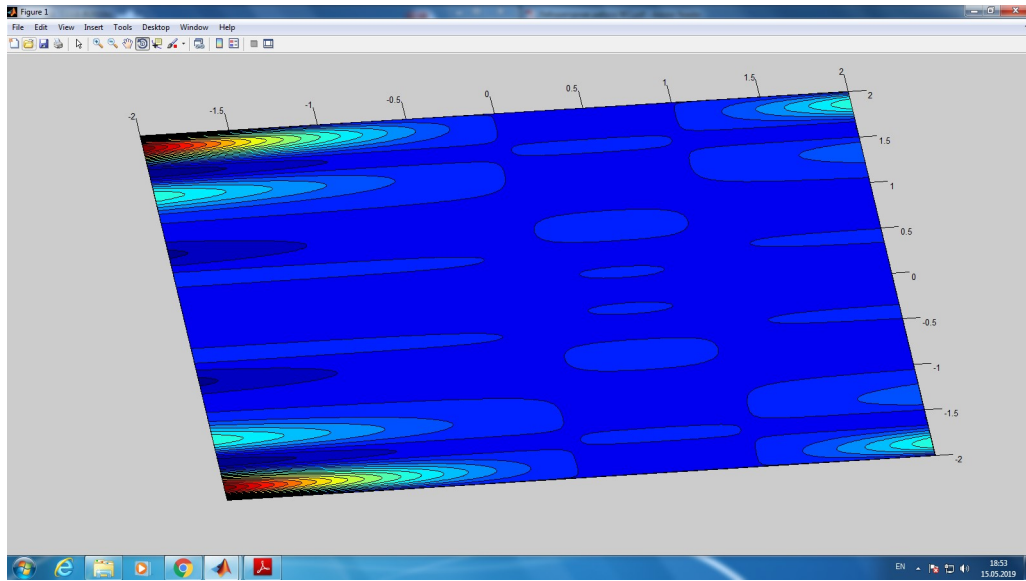


### 3.8

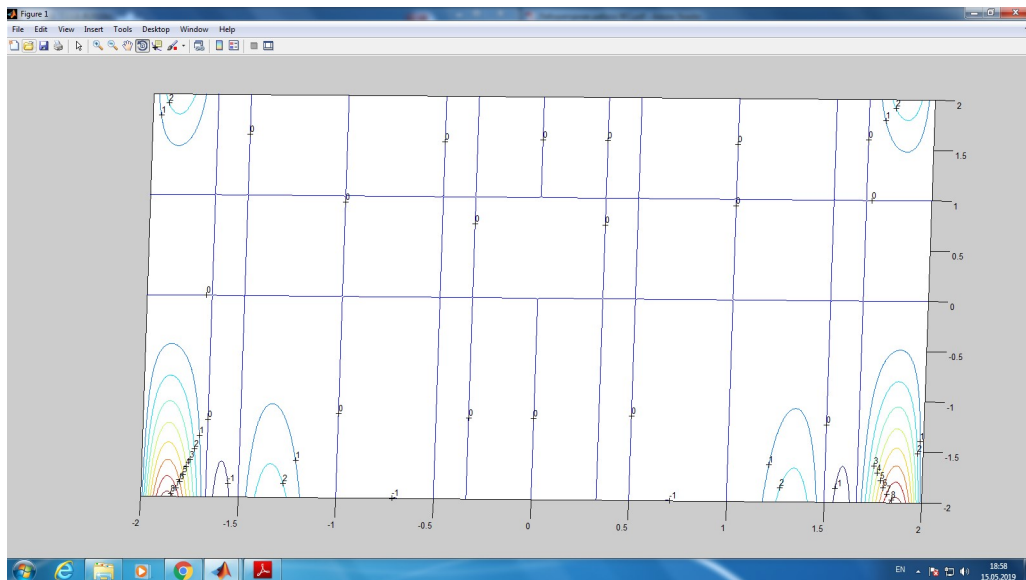
contour



## Contour



## Clabel



## 3.9

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