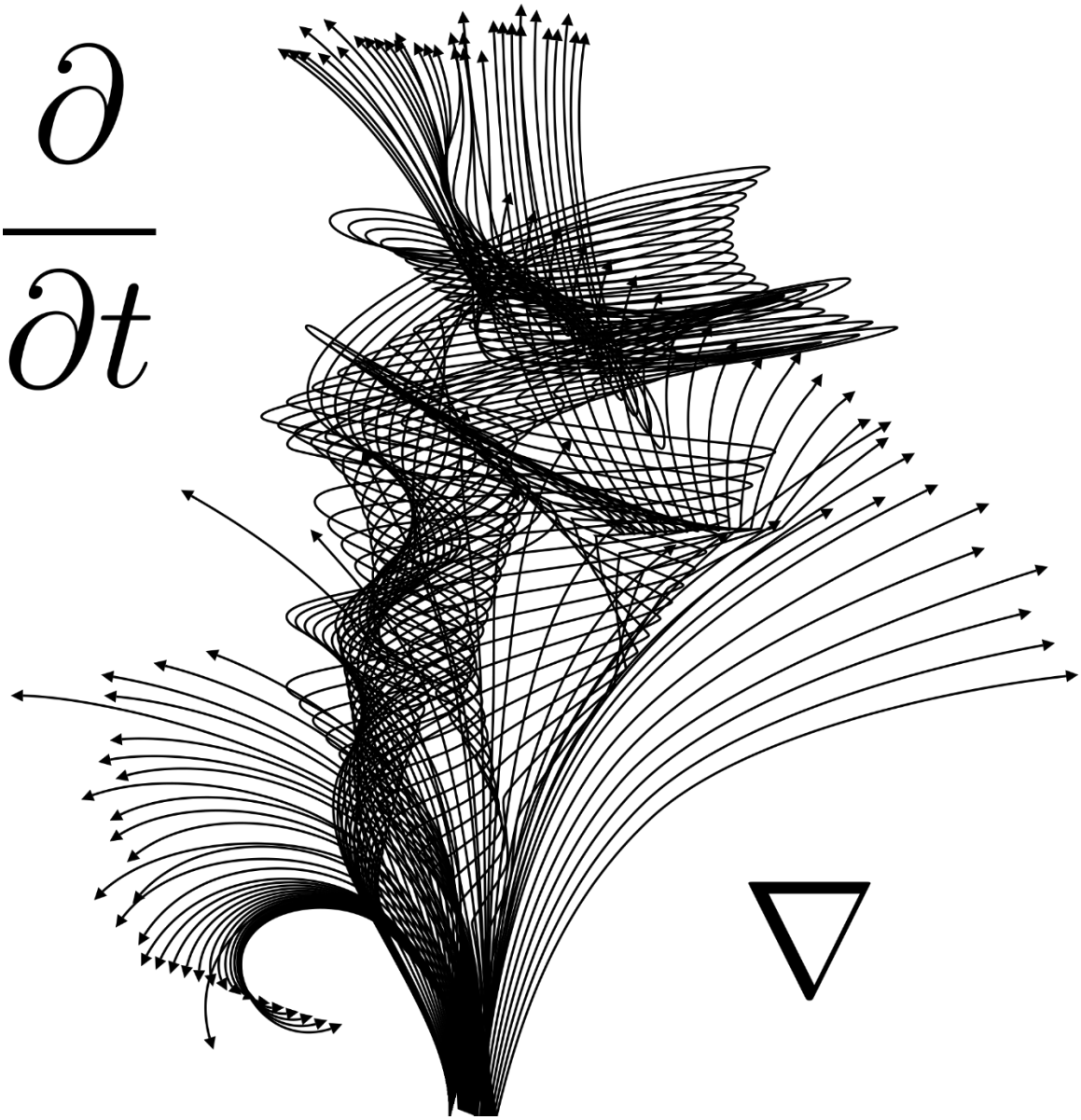
EC-209 CONTROL SYSTEMS

ASSIGNMENT -1



UTKARSH MAHAJAN 201EC164

CODE:

Editor - C:\Users\utkar\OneDrive\Documents\MATLAB\control_system.m

control_system.m

```
1   syms x(t)
2   ode = diff(x,t,2) +12*diff(x,t) + 15*x== 35*t;
3   Dx = diff(x);
4   xso = dsolve(ode, [x(0)==0 Dx(0)==0]);
5   sgtitle("D^2x(t)+12Dx(t)+15x(t) = 35 t for t>0. [201ec164]")
6   subplot(2,1,1);
7   fplot(xso);
8   title("Zero Initial Conditions x(0)==0 Dx(0)==0")
9   xsol = dsolve(ode, [x(0)==1 Dx(0)==0]);
10  subplot(2,1,2);
11  fplot(xsol);
12  title("Initial Conditions x(0)==1 Dx(0)==0")
```

PLOT: