

DE 255, Dr. Sakalli, CSE, Marmara University. 2013.

Project2, Second orderLinear DEs.

File you are given: Pr2_yourname2ndOrderDE.m

You are given matlab files, the aim is to evaluate damping, undamping, and oscillating cases of 2nd order diff homogeneous and inhomogeneous.

Your mission is to fill in the gaps again,
and thoroughly evaluate oscillating, nonoscillating scenarios,
Complex case..

a) the case oscillating with a frequency of your last two digits of your student number.

b) oscillating but gradually attenuating,

c) oscillating but exploding again,

and figure out the results.

d) Real Case.

Try some cases yourself damping down and exploding out, remember two roots exponentially competing against eachother in the real sense with r1 and r2.

The parameters you should change with are
various functions, n=number of divisions line 31, sd = to avoid cluttering
of quiver plot, scarcity..

It, Iy, and C1, and C2.

% answer question why here using "diff" again!!!.. (EXAM QUESTION)

Try equations given below, and try different values of p(t) and g(t),
 $y''(t) + p(t)y'(t) = g(t)$

a) $y''(t) + .02*y'(t) = -20*cos(t)$

a) $y''(t) + .02*y'(t) = -2*cos(t)$

a) $y''(t) + 2*y'(t) = -20*cos(t)$

a) $y''(t) + .02*y'(t) = -2*cos(t)$

b) $y''(t) - .02*y'(t) + .02*y(t) = -2*cos(t)$

b) $y''(t) - .02*y'(t) + .02*y(t) = -0*cos(t)$

b) $y''(t) - .2*y'(t) + .02*y(t) = -0*cos(t)$

b) $y''(t) - .4*y'(t) + .02*y(t) = -0*cos(t)$

c) $y''(t) + .02*y'(t) + .02*y(t) = 20*cos(t)$

c) $y''(t) + .02*y'(t) + .02*y(t) = 2*cos(t)$

c) $y''(t) + .02*y'(t) + .02*y(t) = .02*sin(t)$

d) $y''(t) - .02*y'(t) + .02*y(t) = .0002*t$

d) $y''(t) - .0*y'(t) + .02*y(t) = .0002*t$

d) $y''(t) + .02*y'(t) + .02*y(t) = .0002*t$

d) $y''(t) - .02*y'(t) + .02*y(t) = .000*t$

etc..