MEC 102
Engineering Computing and Problem Solving

Final Project Assignment

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Final Project

Analysis of shock damper prototypes:

Using the script named `final_project(yourSBUID)` you will create an image with a schematic of your shock damper prototype and a text file with the set of data to be employed for your final project.

The `final_project.p` script is employed in similar way as done for the midterm.

You must have the files `final_project.p` and input`.dat` in the same directory

For the mechanism and set of parameters, external forces, and initial conditions in the created files, write a single .m script that performs the following tasks:

1)[20 pts] Plot the displacements in meters for all the masses for time 0 to 250 s.
2)[20 pts] Plot the velocity in meters/second for all the masses for time 0 to 250 s.
3)[10 pts] In a variable named `x1a` store the mass #1 position at time = 100 s.
4)[10 pts] In a variable named `v1a` store the mass #1 velocity at time = 100 s.
5)[10 pts] In a variable named `xmax` store the maximum displacement magnitude observed for any of the masses in the system between 0 and 250 s
6) [10 pts] In a variable named `vmax` store the maximum velocity magnitude observed for any of the masses in the system between 0 and 250 s
7)[10 pts] In a variable `dmin` store the smallest distance observed between mass 1 and mass 2 for times between 0 and 250 s
8)[10 pts] In a variable named `v1mean` store the average velocity of mass 1 in the first 10 seconds (t = 0 to 10 s).