Exam 1

Put all of your code in one m-file. It should be called

lastname_firstname.m

(all lower case). Include your name, section number, and CM number in the comments at the start of the program. There should be no output other than what is asked for.

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PROBLEM (50 pts)
Suppose that we have a vehicle with very bad shocks, which bounces a lot when we go over the train tracks. The equation for the vertical displacement of the vehicle is

$$d = Ae^{-t/\tau}\cos(\omega t)$$

where d is the displacement in inches, t is the time in seconds, and

A	=	amplitude of vibration	=	12”
τ	=	rate of decay of vibrations	=	5 seconds
ω	=	frequency of vibrations	=	2 radians/second

(a) For times from 0 to 10 seconds, every 0.2 seconds, make a nicely formatted table showing the times and the displacements.

(b) Make a plot of the same information. Label the axes and give the plot a nice title.

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When you *complet*e your program, *copy and paste* it into the correct directory:

T:\me\ME123\Exam01\Section01 (T is the ``class” directory.)

Once you have completed this portion of the exam, shut down your computer and close the lid. Turn in this page and get a copy of the written portion of the exam.