

lab07_HW

1. Design a GUI program to plot a sine and a cosine functions with adjustable amplitudes and frequencies.

(1) The amplitudes are controlled by using two `Edit Text` objects

(2) The frequencies are controlled using two `Slider` objects

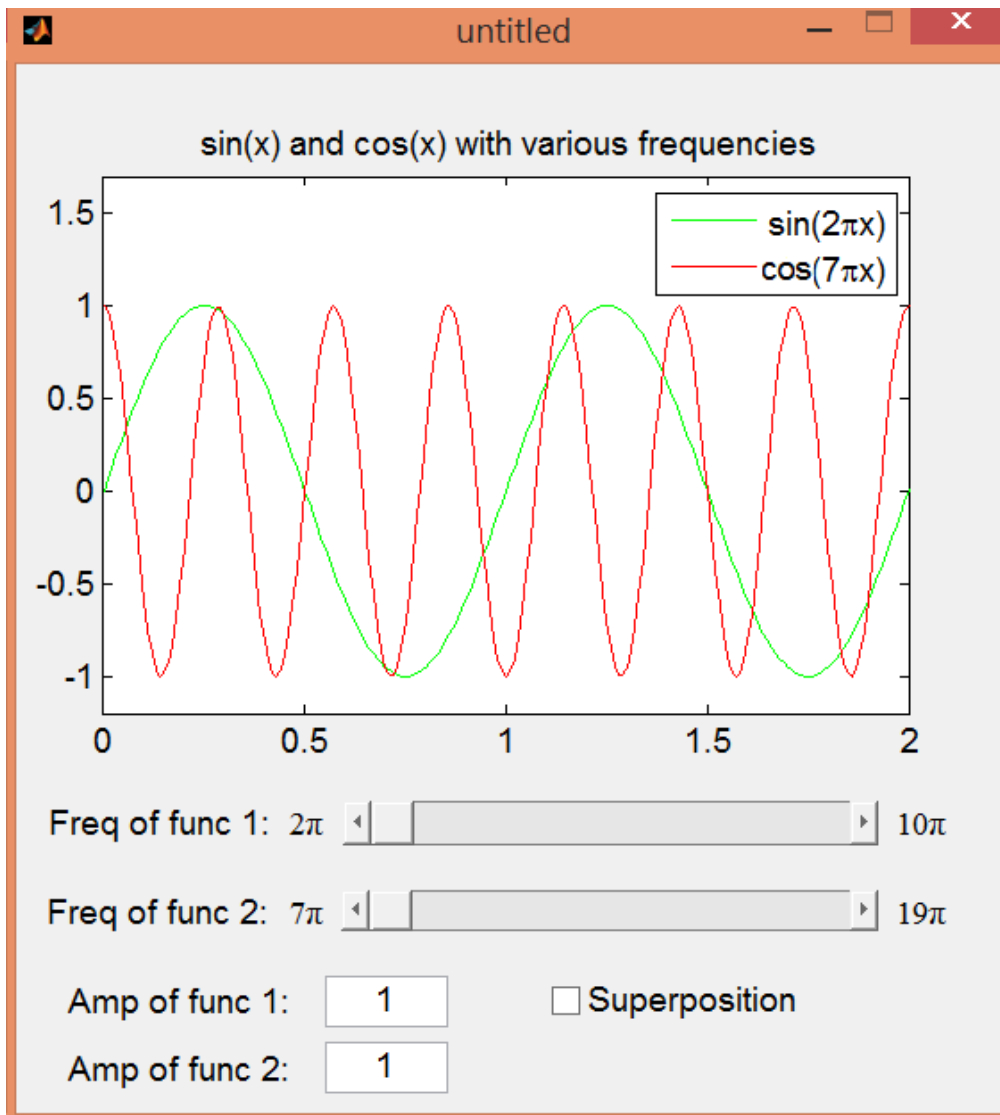
(3) The frequency of the sine function ranges from 2π to 10π , and the frequency of the cosine function ranges from 7π to 10π

(4) The plot is updated whenever the user moves a `Slider` or enter a new amplitude in an `Edit Text`

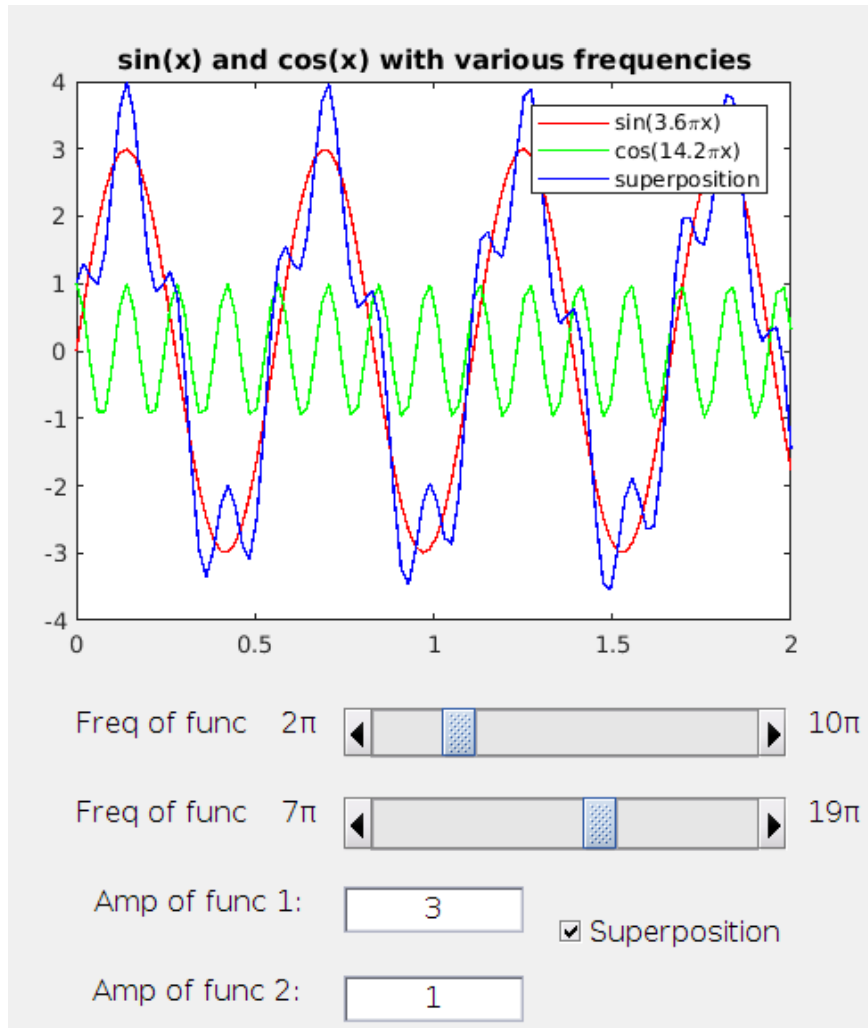
(5) The plot displays a legend to show the line styles of the functions

(6) The superposition of the two functions can be display when a `Check Box` "Superposition" is checked Use the superposition function to display if the two functions cancel each other when their frequencies are identical.

The GUI program should look like this:



see lab07_1.m
see lab07_1.fig
see lab07_1.png



2. Design a GUI program that plots the solution for a first-order ordinary differential equation:

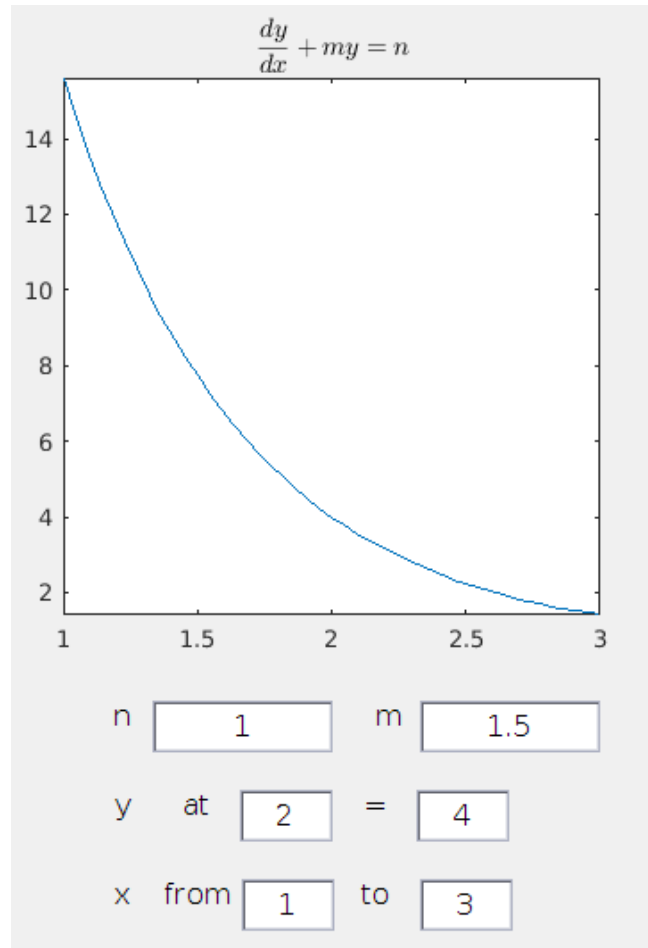
$$\frac{dy}{dx} + my = n$$

where m and n are constants that are adjustable by the user in the GUI. The range of x in the plot should be adjustable by the user too. You may need to ask the user to input the initial condition. You may consider to use the MATLAB function `dsolve` for solving the differential equation.

see lab07_2.m

see lab07_2.fig

see lab07_2.png



I think that GUI is for idiot.

I need to become idiot then I can coding quickly.

Test on ubuntu16.04 + Matlab R0217a academic use