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GUI Final Project

For my final project, I chose to use the example option provided on page two to of the Final Project document. This project proved to be rather difficult for me. First of all, during Lab11 when we used the git repository for the first time, despite talking to two LAs and the professor, no one was able to figure out how to make the repository function as intended and I was eventually excused, the issues being chalked up to an issue with my computer itself. Despite fully understanding the steps I needed to take to use the git repository, it still did not function on my computer. When I would check the status, instead of showing that there was a new file that was untracked, it said there was nothing there, and that the branch was clean and working. This was distressing to me. Eventually, I created a new repository and started over, and ended up being successful.

When writing the code, I struggled to have all functions working at the same time. I decided to tackle this task by first writing the code for all of the elements that would appear on the figure, such as the edit boxes, and the radio and push buttons, and after I wrote the code for the callback functions. I initially wrote the code for the figure, plot, and radio buttons, which all appeared on the figure as intended (lines 1-25). Then I created a pushbutton to reset and one to plot, which also appeared as intended (line 8, 29). Then I went on to create the edit boxes, which took quite a fair amount of time (lines 35-101). They are entitled gui.edit1 through gui.edit7, and gui.editx and gui.edity. Each of the functions for each gui.edit is more clearly specified in the comments next to the functions. The real issues of this project came in when using the callback functions. I worked on the reset button callback for quite some time. I was slightly unclear on which function to use to clear the plot, but I settled on the “cla” function, which is one that I have not used before. In order to set paths to follow depending on the validity of the inputs in the edit boxes, I created a function call plotMsg that used an if statement to go through possible scenarios caused by the user (lines 190-207). Some of these include if the user leaves the edit boxes empty, the program will return the message, “Enter a number to plot”, or if the user enters an input that is not a number into either the edit box for the x coordinate or the y coordinate, then it would create a message box that says, “Either the X or Y coordinate is not a number. Insert a number within the xlim and ylim to plot.” If the inputs are valid, it is meant to plot the inputs on the figure. I purposely only created conditions for the x coordinate y coordinate edit boxes so that the program would still run whether the other edit boxes were utilized or not. After this, I began working on my callback functions for each of the edit boxes (lines 105-157). In these functions, I wanted to set variables to the string that was inputted into the edit boxes and use the str2num function to have a number represented by the variable, and those variables could be plotted through a later function. Then I went on to create a function to plot the new inputs (lines 159-186). This one did not go too well. Currently in the code it is commented because when it is run along with the rest of the code, it produces a completely blank figure. I tried debugging this, but it runs normally, but produces a bad figure. I used the plot function, and I used the new variables that were assigned to the edit boxes in the callback functions. Then I used if statements to utilize the selections for color and symbol from the radio buttons, referencing variables made in the callback functions for the radio buttons.

The code runs completely fine, but once edits are made to the figure, it returns errors, but will not let me use the debugging function. I try to run the function so it will stop on errors, but it just runs successfully. This inhibited my ability to fully understand what the issue was, when logically, it all made sense to me. I did seek help, but these issues arose after LA office hours were no longer available.