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**MATLAB GUI Final Project**

GUI stands for the graphic user interface which allows users to interact with devices through graphical icons and audio indicators such as primary notation, instead of text-based user interfaces, typed command labels, or text navigation. For my final project, I created a GUI graphical tool that allows users to graph a line and change the style from a solid line to a dashed line or a dotted line. This tool can simply be used by just entering values into boxes a, b, and c and click the solve button. If a user wants to switch the style of the line they can click on one of the provided styles solid line, dash line, or dot line, and click solve again to show the new style. This idea was approved by TA Laurel Hilger.

Users can use this tool to demonstrate data in more than one way. This can be helpful for teachers if they want to demonstrate a set of average data or just a simple line graph. The biggest issues that I faced with this project are figuring out which button belongs to which group and the position of each button. Since I had so many buttons it was difficult to figure out the position of each one and make the graphing tool looks organized.

At the begging of the coding project, I had the radio select inside a quote with the GUI.buttongroup. This idea was messing up the code and I was not able to switch between the three different line styles. However, after just creating a radio select function without defining it in a GUI the issue was solved.

Gui is a helpful tool that in my future career I will be able to use to demonstrate many things. As a Biosystems Engineering student focusing on Biomedical Engineering, I will be able to use GUI to present data about different diseases, researchers, and medications. One idea I have that I would like to do is making a GUI code that can present the data of every new COVID-19 case that happened in the state of Nebraska from March 2020 to March 2021. This will help everyone see the dramatic increase of all the positive cases in just a year.

Overall, GUI is a powerful tool that many users can use to demonstrate many math problems, present data about different topics, create graphics, and use it to improve the technology of touch screens and more. If I would recreate this project, I will create a code that can help users insert whatever data to see the change on how many months they want.