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**Lab 5: Matlab Plotting and Function Building Answer Sheet**

1. **Write a MATLAB Function**
   1. Explain the t = and plot command lines.

* The t = sets the parameters for t from -5 to 5 in increments of 0.001. The plot line plots in a graph the output given whatever the parameters are inside the plot function
  1. Describe what happens when you change the step size of t from 0.001 to 0.1.
* The increments for each step of plotting, changes from 0.001 to 0.1. This will make your graph less accurate since there are less points in the graph.
  1. Explain what y=t>=to is telling Matlab to do.
* This tells matlab where to plot on the graph in a specific time frame. In this instance, time is shown as variable t. This says to go as long as t is greater than or equal to t0.

1. **Ramp Function**
   1. Explain what y = (t-to).\*(t>=to) is telling Matlab to do.

* This sets the value for what the ramp should look like. This differs from the parameters of the u function, because instead of being a step, this now makes a ramp.
  1. Include both plots of the ramp function with different to values demonstrated.





1. **Plotting Skills**

* 1. Include your recreation of figure 2. Ensure you show the unit step and ramp functions in the same figure with a line width of 2, labeled axes, and titles for each plot.



1. **Build the Pulse Function**
   1. Include two plots demonstrating your pulse function. One plot for and one for .





1. **Generate a Script with Different Sections**
   1. What is the difference between using subplot for two plots and having two figures?

* The subplot makes it easier to see both plots at the same time, but usually makes the plot smaller and more difficult to read. Having two plots allows for easier reading, but must move everything around to be able to view more than one plot at a time.
  1. Include your reproduction of figure 4. All three plots should be in the same figure and in line horizontally. The line width should be 2, the axes should be labeled, and each plot in the figure should have a title.



* 1. Include your plot of equations (2) and (3) using the hold command. Ensure the following are true: the line thickness is 2, Legend in southeast corner of graph, both equations graphed on the same plot, different line pattern for each equation, turn on the grid, label the axes, and title the graph. Do not use subplot.



F) **Feedback**

F.1. What did you enjoy about this lab?

* + It was nice to see how to plot lines and create different functions in matlab

F.2. What didn’t go well in this lab?

* + This lab (unlike the others before it) was very vague, and did not give much info on hardly anything with plotting lines. This made this lab way longer than it needed to be.

F.3. How would you improve the lab experiment for future classes?

* + Give some kind of info regarding how to plot lines in a certain way, if that is what is asked for turning it in. For instance, if you want a dotted line, why not show me how to add a dotted line? Instead, I spend 20 minutes of trying different methods to plot a line in a dotted fashion, such a small thing that makes the lab too long.