Obstacles:

The biggest obstacles I faced all came to me at once in phase 3 of the project. However, I also had issues determining how to check if a line to be plotted would be plottable in the grid. After thinking about this for almost half a day I came to the realization tht if both endpoints were found in the grid, all point between them would also be in the grid, so I just checked if the endpoints were within the parameters.

An obstacle from phase 3 was coming up with a way to interpret digits after the V’s and H’s. After experimentation I found that what I was doing was all wrong, and decided to read up on some of the pages on the website, and the useful tidbit about the characters and integers presented itself, giving me a solution.

Another obstacle from phase 3 was getting the error codes to display the correct position. I was mistakenly changing the value of badPos throughout my commandPerform function, so this was going all wrong. When I removed those modifications and correctly changed the logic that was dependent on it I found it easier to troubleshoot these errors and implement if statements for certain errors.

Description:

The pseudocode corresponding to my performCommands function is as follows:

*Current row and column position are set to 1*

*Repeatedly until n reaches size of commandString, and n increases each loop:*

*If character at commandString at position n is ‘V’ or ‘v’*

*Increase value of n, current position indicator*

*If no digits or ‘-‘ found at new position n, send error message.*

*Create string made up of digits after ‘V’ or ‘v’ called toInt*

*Convert new string to an integer digitsize*

*If integer is an invalid integer, send error message*

*Check if a verticall line is plottable at current position with digitsize integer as distance*

*If plottable, plot this line*

*Otherwise, send error message 2*

*Modify row value by integer digitsize to represent new position*

*Add digitsize integer to n and subtract 1 to accurately represent new string position.*

*Otherwise If character at commandString at position n is ‘H’ or ‘h’*

*Increase value of n, the position indicator*

*If no digits or ‘-‘ found at new position n, send error message.*

*Create string made up of digits after ‘H’ or ‘h’ called toInt*

*Convert new string to an integer digitsize*

*If integer is an invalid integer, send error message*

*Check if a horizontal line is plottable at current position with digitsize integer as distance*

*If plottable, plot this line*

*Otherwise, send error message 2*

*Modify column value by integer digitsize to represent new position*

*Add digitsize integer to n and subtract 1 to accurately represent new string position.*

*Otherwise If character at commandString at position n is ‘C’ or ‘c’*

*Execute function clearGrid to set all positions to spaces*

*Set value of row position and column position to 1*

*Set character plotChar to ‘\*’*

*Set mode to foreground.*

*Otherwise If character at commandString at position n is ‘B’ or ‘b’*

*Increase position indicator n by one.*

*Set plotChar to value in string at new position n*

*If there are no characters available, send error message*

*Set mode to background*

*Otherwise if character at commandString at position n is ‘F’ or ‘f’*

*Increase position indicator n by one*

*Set plotChar to value in string at new position n*

*If there are no characters available, send error message*

*Set mode to foreground*

*Otherwise*

*Send an error message*

Test Data:

Check for proper horizontal line (“h17”)

Check for proper vertical line (“v14”)

Check for correct background setting (“h17b@h-4”)

Check for changing mode back to foreground (“v14b@v-5f^v6”)

Check clear grid (“h17v14ch6v8”)

Check for correct error code(syntax and position display (“QV34#”)

Check for correct error code(syntax) and position display (“F#H+25H?V3”)

Check for correct error code(syntax) and position display (“H18H-123#”)

Check for other error code(unable to perform) and position display(“h3v14h6v90”)

Check to see if works properly when combined(“h7v9b$v-8h7f\*h-5”)