1. Brief Description of Notable Obstacles
   1. For this project, there were a handful of obstacles that made this project harder than expected. For one, there was a numerous amount of information that needed to be sifted through. Once that was done, figuring out how to structure the code in a readable manner was the next challenging aspect. This became issue became much more prominent during phases of debugging as code blocks tended to blend together, despite the use of curly brackets. The next challenge was ensuring that the *continue* and *break* functions were used at the appropriate times to ensure that the program looped on itself and counted the positions accurately. The final challenge was ensuring that badPos was not altered at inappropriate times and that my own counter in the function was raised at the correct moments.
2. Pseudocode

*include proper headers*

*establish constant variables and declared prototype functions*

*main function*

*asks for command string*

*if empty*

*break*

*use function to read command string*

*output proper response based on function*

*command string function*

*reset rows and columns*

*parse through command line*

*check if character is letter*

*if character is v or h, use plotline function*

*if out of bounds, return appropriate response if character is b or f, change mode and character use*

*If character is c, reset to standard mode and character use*

*if character isn’t letter*

*return appropriate response*

*plotline function*

*check direction of plot*

*make sure input is within the plot’s sizing*

*plot the graph with the appropriate characteristics*

*return true if the graph works, false if out of bounds*

1. Test Code
   1. Q10
      1. Tests to see response for inproper letter command
   2. B8H
      1. Tests to see response for lack of numeral input
   3. F\*H10V+
      1. Tests to see response for improper number input
   4. H25 V5
      1. Tests to see response for inproper command string
   5. H20V15H10
      1. Tests response for out of bounds command
   6. H25v15h-20v-10h15v5h-10v3h5
      1. Tests proper horizontal/vertical movement commands
   7. H20v10cF#H10B$V15
      1. Tests proper commands for horizontal/vertical movements, clearing, and foreground/background shifting and replacing character use
   8. [nothing, just press enter]
      1. Tests if program properly exits