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1. I struggled with passing variables by reference, because I wasn’t able to start each line at the beginning from the other one. I was able to fix this by creating new functions that I could call. It was also difficult trying to make sure the program printed the correct error message—if the string was not syntactically correct and printed out of bounds, it needed to print the message for the syntax error. I fixed this issue by creating a new function that checked for syntax error. I also had some trouble making sure the badPos variable would set to the correct char, but after some trial and error, I figured it out.
2. If the commandString is empty, the function returns 0

Initializes startRow and startCol, which is where the line will be drawn

Calls checkSyntax, which traverses the string, checking to make sure all the commands are syntactically correct—if a command is not syntactically correct, it sets the variable badPos to where the error is, and returns 1, which breaks out of the function

Traverses the string

If the char at position k is c, calls performC which clears the grid and resets plotChar, mode, startRow and startCol, and increments k accordingly

If the char at position k is f or b, calls performFB, which changes the mode and plotChar, and increments k accordingly

If the char at position is v or h, it calls performHV, which first checks to see if it attempts to plot the line out of bounds; if it does, it returns 2, breaking out of the function

If it does not plot a line out of bounds, it proceeds to plot a line

k is incremented accordingly

if it reaches the end of the function, it returns 0

1. H12v3h-1B@v-3 – to see if it plots the proper length lines

V2b h12fHh1fih0—plots the proper length lines

Cv16—make sure it clears and plots the line properly

H30—prints proper error message

V20--prints proper error message

H0—prints only one star

V0—only prints one star

H16h10—starts printing from where the last line left off

V16v10—prints an error message

H29—will still print a line

V19—will still print a lint

h-1—prints the proper error message

v-1—prints the proper error message

h@--prints error message

hf—prints error message

vb—prints error message

v&--prints error message

h10b$v10f%v-10—making sure fg and bg work correctly

v6v10—prints where the last line left off

h16h20—prints correct error message

F#H+25H?V3!—prints correct error message

B@H--prints correct error message

C12—prints correct error message

Q3V4#--prints correct error message

V03C H123#--prints correct error message

H18H-123#--prints correct error message

H5H-1-2—prints correct error message

FH8—prints correct error message