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CS 31 with Professor Smallberg

Due October 31, 2019

Assignment 3: Nefarious Plots

**Obstacles**

Starting phase 3 before phase 2 -> Misunderstood the spec before fully reading it

Used badPos in performCommands as a count variable -> Had to make a new count variable

Catching errors (parenthesis and brackets)

Sometimes errors of cout (ambiguity) comes up

Figure out how to use assert to test phase 2 -> forgot to #include <cassert>

Misunderstood background – accidentally replace the character when it is not space

**Pseudo Code**

Plot line:

If fail statements are true (over the borders, character not printable, direction not horiz or vert, not FG or BG)

Return false

Distance is positive

Repeat distance amount of times

If direction is horizontal

If background and it’s not space

Skipped

Set the character at the location according to the number of the repeated amount

Do the same for vertical except the location changes the row instead of the column

Distance is negative

Do the same except when setting the character, you move up or left instead down or right

Return true

# Perform Command:

If string is empty, continue

Convert the command into all lowercases

Set static variables for row and column (do not reset to 1 when getting more inputs)

Repeat until the string ends

If char is h or v (horizontal or vertical commands)

Set direction from h to v to its appropriate int representation

If negative

If the next char is a number

If the following is a number

Obtain the two digits into an int

Plot line and return 2 (command error) if plot line return false

(Make sure the distance is negative)

Change row and column

Add counting variable (skipped the character that has been run before)

Obtain the first digit and covert to int

Same procedure as above (except change the number of rows, columns, and counting variable correctly)

If positive

Same except distance is positive

If char is f or b (foreground or background)

If next char is printable

Set the correct mode (foreground or background)

Set plot character and add the counting variable to account for the addition

If not printable, make sure the syntax error (return 1) is on the second character

If char is c

Clear grid, set row and column to 1, set character to ‘\*’ (original) and go to next for-loop

If not any of these

Set bad position as the index (counting variable) and return 1

Return 0 if for-loop runs successfully

- Make sure all exception returns 1 (syntax mistake)

- Make sure when testing the next number, it is within the string length (or calling the character will err)

**Test Data**

“v5h5bOh-5v-5fzh2” – Test if background works (make sure it does not replace the character before)

“v2h2f h-2” - Replacing some characters with space

“v10h10c” - Clear all

“v5H10b5foV5” - Tried different capitalization

Failed to command (NOT syntax error):

“v5h5v-2h20“ – Tried over left horizontal boundary

“v5h5v-2h20” – Tried over right horizontal boundary

“v5h5v-2h5v-10” – Tried over top vertical boundary

“v5h5v-2h5v30” – Tried over top vertical boundary

Syntax Error:

“f5v5hh” – non-number or - after h or v

“!f4v5” – improper start

“V3-3” – No command before -3