Fullstack Engineer interview coding problem

Write a simple ASCII art drawing program. The program should support the following features:

`N w h`

Create a new canvas of width w and height h.

`C c`

Set the color to the value of c. Default color should be "x".

`L x1 y1 x2 y2`

Create a new line from (x1,y1) to (x2,y2). Support for horizontal or vertical lines is enough. Lines will be drawn using the selected color.

`R x1 y1 x2 y2`

Create a new rectangle from (left,top) (x1,y1) to (right,bottom) (x2,y2). Lines will be drawn using the selected color.

`B x y`

Fill the entire area connected to (x,y) with the selected color. This is the same as a "bucket fill" tool in paint programs.

`Q`

Quit the program.

Notes

You're free to implement the solution in any language you like, but we would prefer a language from our stack, namely C++, Rust, or TypeScript. We don't expect you to spend more than 6 hours to come up with a solution. The submitted solution should be clean, complete, and working as expected. Make sure you also have a look at the next page for a sample run of the program. This document should contain all the information required to solve the problem. If something is not clear, feel free to make an explicit assumption.

This coding problem is property of Auterion AG. Please do not publicize or re-distribute it in any form (e.g. blog about it, put the problem or solution on GitHub, etc.)

Sample I/O

Below is a sample run of the program. User input is prefixed with 'enter command:'.

```
enter command: N 20 5
---------------------
|                   |
|                   |
|                   |
|                   |
|                   |
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enter command: L 1 2 6 2
---------------------
|                   |
|xxxxxx             |
|                   |
|                   |
|                   |
---------------------

enter command: L 6 3 6 5
---------------------
|                   |
|xxxxxx             |
|     x             |
|     x             |
|     x             |
---------------------

enter command: R 16 1 20 3
---------------------
|             xxxxx|
|xxxxxx        x   x|
|     x        xxxxx|
|     x             |
|     x             |
---------------------
```

```
enter command: C o
---------------------
|              xxxxx|
|xxxxxx        x    x|
|     x         xxxxx|
|     x             |
|     x             |
---------------------

enter command: B 10 3
---------------------
|oooooooooooooooxxxxx|
|xxxxxxooooooooox    x|
|      xooooooooooxxxxx|
|      xoooooooooooooo|
|      xoooooooooooooo|
---------------------

enter command: Q
```