

Ideaworks Labs Programming Task

Please spend around 3-6 hours on the following task:

Using C or C++, write a small application that takes as input a set of line coordinates, and renders them to ASCII line art. Your source code shouldn't depend on additional libraries and should use only standard C/C++ APIs.

The program should accept a string as input line data, of the form “(x,y) – (x,y), (x,y) – (x,y), ...” where (x,y) are the coordinates of the line segments. The program should accept an arbitrary number of line segments.

The coordinate range is between 0 and 19 on x and 0 to 9 on y, and the output should be a 20x10 array of ASCII characters.

Your application should be able to handle any number of lines from any coordinates.

For example, the input string “(4,9) – (14,0), (0,4) – (19,4)” might produce the following output:

```

                                     X
                                   X
                                 X
                               X
XXXXXXXXXXXXXXXXXXXXXXXXX
                               X
                              X
                             X
                            X
                           X
                          X
```

Please try any good ideas you might have that could produce a nicer output – for example consider using other ASCII characters such as ‘/’, ‘_’ and ‘|’. Good ideas that are imperfectly executed will be rewarded over simple code that only accomplishes the basics.

Feel free to search the internet to help you solve the task.