A friend heard you were attending devCodeCamp and asked if you would write an application to help her manage her small garden-rental business. She rents out a number of random garden plots in a field, which she maintains for a fee. She has some required functionality for the application, as described below.

The application needs to read a user-specified plot text file that represents the rectangular garden plots' position and width/height (in feet) in the format of "x, y, w, h". For example:

2,2,10,20

100,10,5,5

5, 5, 10, 10

The application needs to implement the following features, accessible via the command-line, and output the result to file:

1. Some of the plots overlap (so customers can share portions of their gardens). Write functionality to specify which plots overlap (each overlapping plot should appear once and only once in the output file).

Command format: "PlotProgram.exe 1 <input plot file> <output plot file>"

Ex: "PlotProgram.exe 1 plots.txt overlapping\_plots.txt"

2. Find the total amount of fencing material (in feet) necessary to fence in the perimeter of each garden plot individually. (Overlapping plots use the same amount of fencing material as they would if they were separate)

Command format: "PlotProgram.exe 2 <input plot file> <output file>"

Ex: "PlotProgram.exe 2 plots.txt total\_fencing.txt"

3. Find the minimum amount of fencing material (in feet) necessary to fence in all of the garden plots together in one giant rectangle.

Command format: "PlotProgram.exe 3 <input plot file> <output file>"

Ex: "PlotProgram.exe 3 plots.txt total\_fencing.txt"

4. Find the total amount of fertilizer necessary to cover all of the garden plots, given that it takes half a bottle to fertilize a square foot of garden. (the overlapping portion of overlapping plots shouldn't be counted twice)

Command format: "PlotProgram.exe 4 <input plot file> <output file>"

Ex: "PlotProgram.exe 4 plots.txt total\_fertilizer.txt"

5. Write functionality to rotate all of the rectangles by 90°, 180°, or 270°.

Command format: "PlotProgram.exe 5 <input plot file> <output plot file>"

Ex: "PlotProgram.exe 5 plots.txt rotated\_plots.txt"

Beyond the above functionality, the application should not display anything to the screen or require any user interaction.