For lab 1 you learned how to read images from files and display them; you also implemented some simple image analysis operations. Your task is to extend your code for lab 1 so it allows the user to enter multiple regions in the image. Implement the following:

1. After the user has clicked on both edges of the calibration scale, prompt the user to enter as many rectangles as he/she wants. To signal the program to stop prompting the user to enter coordinates, the user must click on a point and then click on another point that is not to the right and below the first point. For example, if the coordinates of the first point are (50,50) and the coordinates of the second point are (150,200), the program should continue; if the first point is (50,50) and the second point is (34,30), the program should stop, as (34,30) is not to the below and to the right of (50,50). As before, display the regions after they are entered by the user. The following figure shows a possible image that would be output at this stage.

2. Once the user is done entering points, you should display a second image showing only the largest region, with boundaries colored blue, and the smallest region, with boundaries colored red. Print also the areas of the regions and a message stating whether the regions overlap. For extra credit, determine the area of the overlap. The following figure shows a possible image that would be output at this stage.
Hint: you may find the functions `plt.figure`, `plt.title`, and `plt.savefig` useful.

Write a report including (at least) the following items:
1. Problem description.
3. Experimental results. Show a few instances of images output by your program and messages printed to the screen.
4. Discussion of results. Do the algorithms work as expected? Why or why not?
5. Conclusions. Describe what you learned, what was challenging, what was interesting, what was boring, etc.
6. Appendix: Source code; make sure it is adequately documented.