Chapter 5 Problem Set

Note: When you turn in an assignment to be graded in this class, you are making the claim that you neither gave nor received assistance on the work you turned in (except, of course, assistance from the instructor or teaching assistants).

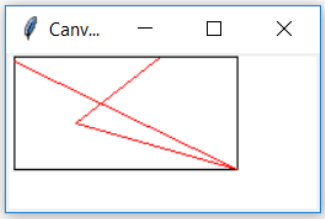
Develop a class named Border that extends Canvas, a built in class in the Python package tkinter. You will use this class Border to draw a rectangle that borders a set of points that were entered by the users. You will also draw lines within the rectangle to connect all the points entered. In addition to these shapes, the program will output to the screen information about the rectangle that is being created. You will display the rectangle's center point as well as the width and height of the rectangle.

To build the Rectangle, you will create a Rectangle class as well that will be passed all the points that were entered. This class will have the following methods:

- Calculate the minimum x value,
- Calculate the minimum y value,
- Calculate the maximum x value,
- Calculate the maximum y value,
- Calculate the rectangle's center point,
- Calculate the width of the rectangle and
- Calculate the height of the rectangle.

See the sample displays below.

```
 RESTART: C:\Users\ccbudwell\Documents\CMSC 403\Spring 2018 problem sets\Problem
Set5Solution.py
Enter the points: 5 5 150 75 45 45 100 2
The bounding rectangle is centered at (77.5, 38.5) with width 145 and height 73
>>>
```



Please let me know what questions you might have. I have attached sone sample Python files for your reference.

Grading Rubric:

Category	Points
Proper use of classes	20
Correct reading input data	20
Proper use of canvas to draw rectangle	20
Proper use of canvas to draw lines	20
Correct or output based on input	20
Total	100