CMPT 120 - Program 8

Program Due: **Thursday**, November 14, before 1:30 p.m. (submitted and printed)

Name the main program **Prog8YourLastName.py**

Name the Rectangle class file **rectangleYourLastName.py**

Bring hardcopy to class to turn in

The purpose of this program is to refine your knowledge about classes and methods.

Write a class named **Rectangle** to represent Rectangles. Your class will have three instance variables: `myWidth` (integer), `myHeight` (integer), `myFillStyle` (string).

You will need to define the following methods: the constructor, getters and setters for each instance variable, `calcArea, calcPerimeter, drawRectangle` and `drawOutline`. The `drawRectangle` method will print out a "picture" of the rectangle, using the character stored in `myFillStyle` to do the drawing. For example, a 20 by 5 rectangle whose `myFillStyle` is '*' will look like this:

```
********************
********************
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```

You'll also need to write a main program (**Prog8YourLastName.py**) that uses this class. Your main program should use the following menu:

```
W : Assign the Width
H : Assign the Height
F : Assign the Fill Style
A : Calculate the Area
P : Calculate the Perimeter
T : Text Description of the Rectangle
D : Draw the Rectangle
O : Draw the Outline of the Rectangle
Q : Quit
```

Options W, H, and F will prompt the user for specific input, then call the appropriate **setter()** to update the Rectangle.

Option T will print out messages describing the length, width, fillStyle, area and perimeter of the Rectangle. You'll get these values by printing what the **getters()** return.

Options A and P will call methods that will calculate and return values – You'll print the values that are returned.

Option O: instead of printing a filled rectangle, just draw its **outline**! This option is an optional "Challenge"

You should create your initial Rectangle to have a width of 10, a height of 5, and a fillStyle of "*". Be sure to do necessary validation checking.