Python Randy's Rectangle Calculator OOP

Time required: 60 minutes

- Comment each line of code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

Pseudocode

1. Write pseudocode for the exercise
2. Submit with the assignment

Minimum Requirements

The program will ask the user to enter the width and length of a rectangle, then display the rectangle's area and perimeter

Create a Python program named **rectangle_calculator_oop.py**

Create the following methods.

1. Create a Python program named **rectangle_calculator_functions.py**
2. Create a **Rectangle** class.
3. Create each of the following methods.
4. Create a Rectangle object. Call each method from the object.

program_title() – Print a nice program title.

get_length() - This method will ask the user to enter the rectangle's length.

get_width() - This function will ask the user to enter the rectangle's width.

get_area() - This method should use the rectangle's length and width as arguments and return the rectangle's area. The area is calculated by multiplying the length by the width. Area of a rectangle: **Area = length * width**

get_perimeter() - This method should use the rectangle's length and width to calculate the perimeter. The perimeter is calculated by adding the length and the width then

multiplying by 2.
Perimeter of a rectangle: **Perimeter = 2 (length + width)**

display_results() - This function should display the rectangle's length, width, area, and perimeter.

TODO Outline of Program

You can use the following TODO outline to get started with your program.

```
"""
    Name: rectangle_calculator_oop.py
    Author:
    Created:
    Purpose: Python program in OOP to calculate
    the area and perimeter of a rectangle
"""

# TODO: Create Rectangle class

# TODO: Method to print nice program title

# TODO: Method to get user input as float for length data attribute

# TODO: Method to get user input as float for width data attribute

# TODO: Method to calculate area of rectangle for area data attribute
# Math formula: a = lw
# Use length and width data attributes

# TODO: Method to calculate the perimeter for perimeter data attribute
# Math formula: p = 2(l+w)
# Use length and width data attributes

# TODO: Display results
# Use f-strings to format float to 2 decimal places
# use comma , as a 1,000's separator

# TODO: Create Rectangle object
# Call all methods from Rectangle object
```

Example run:

```
-------------------------------------------------
|     Randy's Rectangle Calculator in Python     |
| Calculate the area and perimeter of a Rectangle |
-------------------------------------------------
Enter length: 201.56
Enter width: 250.123
Width:     250.123
Length:    201.56
Area:      50,414.79
Perimeter: 903.37
```

Assignment Submission

1. Attach the pseudocode.
2. Attach the program files.
3. Attach screenshots showing the successful operation of the program.
4. Submit in Blackboard.