Triangle Class

For this lab, you will create a simple class that creates and evaluates triangles.

Program Design

You will create a class and then use the provided test program to make sure it works. This means that your class and methods must match the names used in the test program.

The file you will save the class Triangle in should be Triangle.py. You build and test your class and then when it is working properly, you download the test program triangle_main.py and place it in the same folder as your Triangle.py file. Then run the triangle_main program and it will execute and test your class.

When all is working, you should upload your Triangle.py program to Moodle.

Program Requirements

You need to define a class to implement a Triangle.

- Each Triangle is defined by the length of its 3 sides. Each length is an integer. You can name the sides whatever you want, but you do need three variables in your class.

- The initializer function for your Triangle class should create a triangle with sides of 3, 4, and 5 when called with no parameters. If it is called with three parameters, it should save those as the sides of the triangle. You can call the three sides anything you want internally in your code.

- The Triangle class should have three methods that allow setting of the sides. These should be called **setA**, **setB**, and **setC**. They each will have a single parameter that is saved as one of the three sides. You do not need to verify that they are called with integers, but you should save the values as integers in your class.

- The Triangle class should have three methods that allow getting of the sides. These should be called **getA**, **getB**, and **getC**. They have no parameters and just return the appropriate side values.

- The Triangle class should have four additional methods **isEquilateral**(), **isScalene**(), **isIsosceles**(), and **isRight**(). Each of these has no input parameters and returns a boolean value that is true if the appropriate condition is met, false otherwise

    - isEquilateral – all three sides are equal
    - isIsosceles -- **at least** two sides are equal (either just 2 or all 3)
    - isScalene – no two sides are equal
    - isRight – the square of one of the sides is equal to the sum of the squares of the other two sides (You should check all three combinations)