SENG265: Software Development Methods (Spring 2020)

Lab 09 – Python classes

Week of July 9th

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*based on material provided by Prof. Mike Zastre

This week

- Writing a python package with classes in it
- Use and write doctest files for testing the classes in the package

Using doctest

- Download test_hello.txt
- doctest is a python module through which we can use the python interpreter to test code for expected output.

Using doctest

- For example, for test_hello.txt, enter the following command in terminal
  - $ python –m doctest –v test_hello.txt
- Notice the output

Trying:

    print("Hello, world!")

Expecting:

    Hello, world!

ok

1 items passed all tests:

   1 tests in test_hello.txt

1 tests in 1 items.

1 passed and 0 failed.

Test passed.

Using doctest

- Now change the second line “Hello World!” to “World”
- $ python –m doctest –v test_hello.txt
- What is the output to console now?

q_geometry.py

- Download q_geometry.py
  - Complete the implementation in q_geometry.py
  - This will be a package in which you will write 3 classes – Point, Circle, Square
  - You may import and use the math module
  - The objects of these 3 classes are to be immutable
- Download test_point.txt, test_square.txt, test_circle.txt
  - These are files with doctests for the package q_geometry.py
  - You will run these to test your code.
  - Carefully look at the code in these files and understand what is being tested and how it is being tested.
  - You will need to write a doctest file later in this lab.

q_geometry.py

- Create another class in this package that represents any other shape you may choose. This shape should have an area, a perimeter and defining attributes.
- Write a doctest for this class.

Git

- Remember to place all you work into your course remote repository
- Remember to submit your attendance