- 1. **Assignment Description:** To (a) develop a set of tests for an existing triangle classification program, (b) use those tests to find and fix defects in that program, and (c) report on your testing results for the Triangle problem.
- 2. Author: Danping Cai
- 3. **Summary:** I used unittest to debug an unfinished program and have improved the imperfect program using the bugs I have found. I found test driven debugging a very useful tool to use on any project that's not written by us but given to us.
- 5. Honor pledge: I pledge that all the work is my own.

## 6. Detailed results, if any:

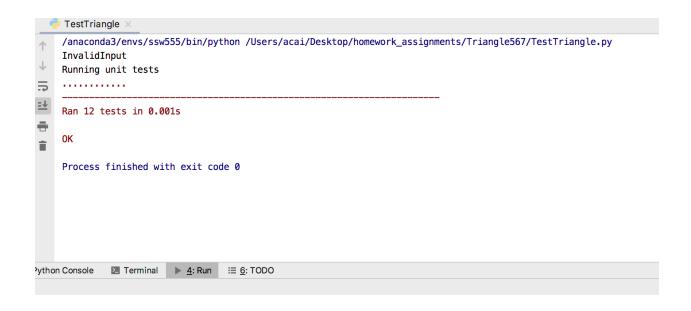
Initial buggy test report:

Test ID	Input	Expected Results	Actual Result	Pass or Fail
testRightTriangleA	3,4,5	Right'	InvalidInput	Fail
testRightTriangleA	5,3,4	Right'	InvalidInput	Fail
testEquilateralTrian gleA	1,1,1	Equilateral'	InvalidInput	Fail
testEquilateralTrian gleA	22,22,22	Equilateral'	InvalidInput	Fail
testScaleneTriangle	3333,3333,33 33	Scalene'	InvalidInput	Fail
testlsocelesTriangle A	11, 16, 13	Isoceles'	InvalidInput	Fail
testlsocelesTriangle	5, 5, 4	Isoceles'	InvalidInput	Fail
testInvalidInputA	44, 66, 66	Isoceles'	InvalidInput	Fail
testInvalidInputC	-99,-99,-99	InvalidInpu t'	InvalidInput	Pass
testNotATriangleA	233,233,499	NotATriang le'	InvalidInput	Fail

testNotATriangleB		-•	InvalidInput	
testNotATriangleC	20, 20, 50	NotATriang le'	InvalidInput	Fail

## Improved test report:

Test ID	Input	Expected Results	Actual Result	Pass or Fail
testRightTriangleA	3,4,5	Right	Right	Pass
testRightTriangleA	5,3,4	Right	Right	Pass
testEquilateralTrian gleA	1,1,1	Equilateral'	Equilateral	Pass
testEquilateralTrian gleA	22,22,22	Equilateral'	Equilateral	Pass
testScaleneTriangle	3333,3333,33 33	Scalene'	Scalene'	Pass
testlsocelesTriangle	11, 16, 13	Isoceles'	Isoceles'	Pass
testlsocelesTriangle	5, 5, 4	Isoceles'	Isoceles'	Pass
testInvalidInputA	44, 66, 66	Isoceles'	Isoceles'	Pass
testInvalidInputC	-99,-99,-99	InvalidInpu t'	InvalidInput	
testNotATriangleA	23,23,0	InvalidInpu t'	InvalidInput	Pass
testNotATriangleB	3,1,1	NotATriang le'	NotATriangl e'	Pass
testNotATriangleC	20, 20, 50	NotATriang le'	NotATriangl e'	Pass



At first I ran the TestTriangle.py against Triangle.py, found 12 fails. I fixed data type check(not strings), triangle formation essentials, triangle classification and so on.

	Test Run 1	Test Run2	Test Run2	Test Run3
Tests Planned	12	12	12	12
Tests Executed	12	12	12	12
<b>Tests Passed</b>	0	4	11	12
Defects Found	12	5	4	0
Defects Fixed	0	2	10	0