SSW 567 – WS

HW05 – Report

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1. GitHub: https://github.com/vamshivittali76/SSW-576-Fall-23/tree/main/HW%205

Summary: This assignment helped me learn more about static testing and coverage testing. I had a fun time reading up on the Pylint and Coverage,py documentation. The implementation was quite easy as I was able to figure out the changes that were needed to be done in my code.

2. The name and output of the static code analyzer tool you used:

The name of the static code analyzer I used was Pylint

Output:

```
Windows PowerShell
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PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02> pylint Triangle.py
************* Module Triangle
Triangle.py:3:0: C0301: Line too long (105/100) (line-too-long)
Triangle.py:5:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:9:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:12:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:16:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:23:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:1:0: C0114: Missing module docstring (missing-module-docstring)
Triangle.py:1:0: C0103: Module name "Triangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:0: C0116: Missing function or method docstring (missing-function-docstring)
Triangle.py:1:0: C0103: Function name "classifyTriangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:21: C0103: Argument name "a" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:23: C0103: Argument name "b" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:25: C0103: Argument name "c" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:25:4: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)
Triangle.py:1:0: R0911: Too many return statements (7/6) (too-many-return-statements)

-----------------------------------
Your code has been rated at 0.62/10

PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02>
```

3. The name and output of the code coverage tool you used:

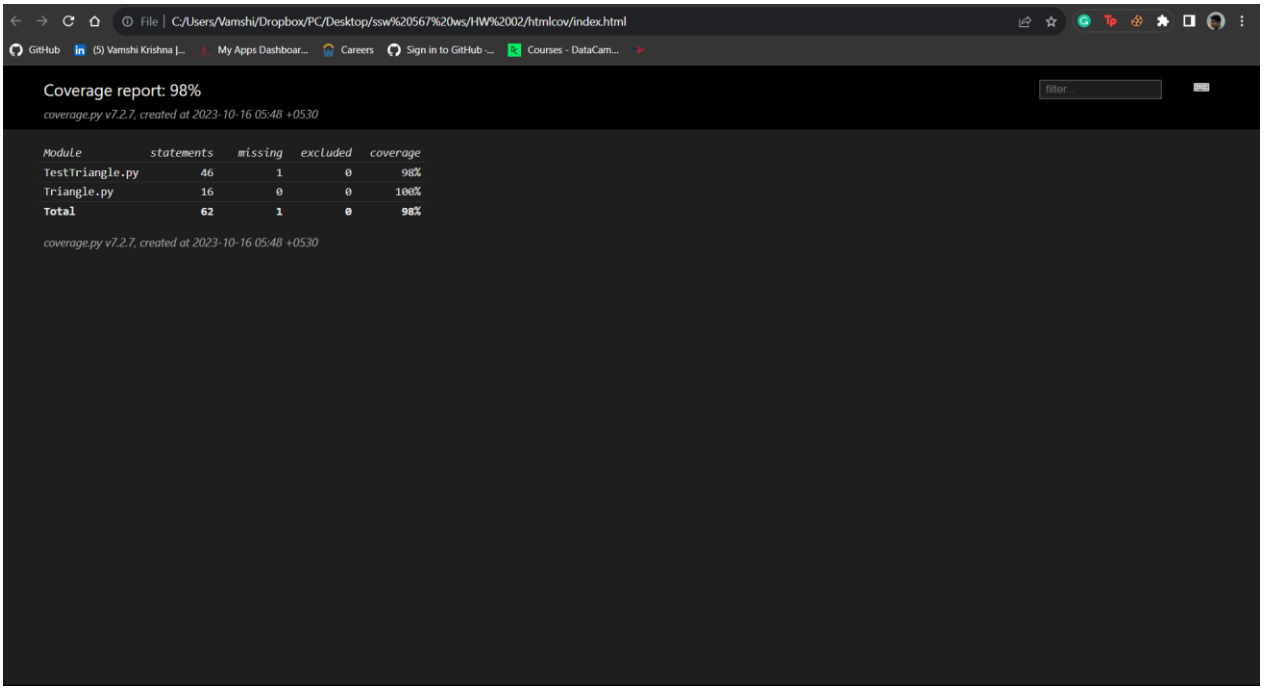
The name of the code coverage tool I used is Coverage.py

Output:

```
PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02> coverage run -m unittest TestTriangle
....................
----------------------------------------------------------------------
Ran 20 tests in 0.002s

OK
PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02>
```

Output 2:



4. Identify both your original test cases and new test cases that you created to achieve at least 80% code coverage.

Old Test Cases:

1. testvalidtriangle1: Test a valid right triangle.
2. testvalidtriangle2: Test a valid equilateral triangle.
3. testvalidtriangle3: Test a valid isosceles triangle.
4. testvalidtriangle4: Test a valid scalene triangle.
5. testinvalidtriangle1: Test an invalid triangle.
6. testinvalidtriangle2: Test invalid input (side lengths <= 0).
7. testinvalidtriangle3: Test invalid input (negative side length).
8. testinvalidtriangle4: Test invalid input (side lengths > 200).
9. testnonnumericinput: Test non-numeric input.
10. testvalidtriangle5: Test a valid right triangle with different side order.

11. testvalidtriangle6: Test a valid right triangle with different side order.
12. testvalidtriangle7: Test a valid right triangle.
13. testvalidtriangle8: Test a valid right triangle.
14. testvalidtriangle9: Test a valid right triangle.
15. testvalidtriangle10: Test a valid isosceles triangle.
16. testvalidtriangle11: Test a valid isosceles triangle.
17. testvalidtriangle12: Test a valid right triangle.
18. testvalidtriangle13: Test a valid equilateral triangle.
19. testvalidtriangle15: Test a valid equilateral triangle.
20. testinvalidtriangle5: Test an invalid triangle.

New Test Cases:

1. testvalidtriangle14: Test a valid equilateral triangle.
2. testvalidtriangle16: Test a valid scalene triangle.

5. Attach screen shots of the output of the static code analyzer as well as code coverage. You should show a screen shot of the analysis results both before and after any changes that you make to your programs:

Static code analysis report on original program

```
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PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02> pylint Triangle.py
************* Module Triangle
Triangle.py:3:0: C0301: Line too long (105/100) (line-too-long)
Triangle.py:5:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:9:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:12:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:16:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:23:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:1:0: C0114: Missing module docstring (missing-module-docstring)
Triangle.py:1:0: C0103: Module name "Triangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:0: C0116: Missing function or method docstring (missing-function-docstring)
Triangle.py:1:0: C0103: Function name "classifyTriangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:21: C0103: Argument name "a" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:23: C0103: Argument name "b" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:25: C0103: Argument name "c" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:25:4: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)
Triangle.py:1:0: R0911: Too many return statements (7/6) (too-many-return-statements)

-----------------------------------
Your code has been rated at 0.62/10

PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02>
```
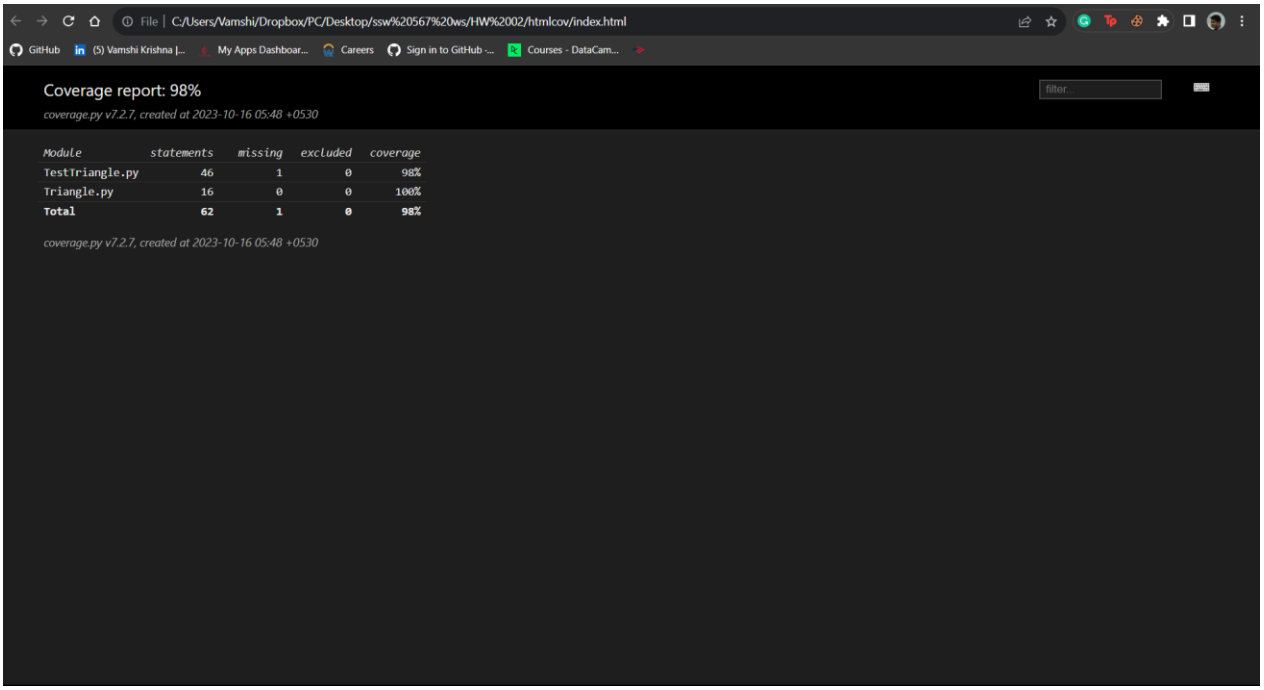

Code coverage report before any changes to the program

```
PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02> coverage run -m unittest TestTriangle
....................
----------------------------------------------------------------------
Ran 20 tests in 0.002s

OK
PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 02>
```



Static code analysis report after you have made changes to eliminate issues

```
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PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 5> pylint Triangle.py
************* Module Triangle
Triangle.py:3:0: C0301: Line too long (105/100) (line-too-long)
Triangle.py:1:0: C0114: Missing module docstring (missing-module-docstring)
Triangle.py:1:0: C0103: Module name "Triangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:0: C0116: Missing function or method docstring (missing-function-docstring)
Triangle.py:1:22: C0103: Argument name "a" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:25: C0103: Argument name "b" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:1:28: C0103: Argument name "c" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:20:4: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)
Triangle.py:1:0: R0911: Too many return statements (7/6) (too-many-return-statements)

-------------------------------------------------------------------
Your code has been rated at 4.38/10 (previous run: 4.38/10, +0.00)

PS C:\Users\Vamshi\Dropbox\PC\Desktop\ssw 567 ws\HW 5>
```
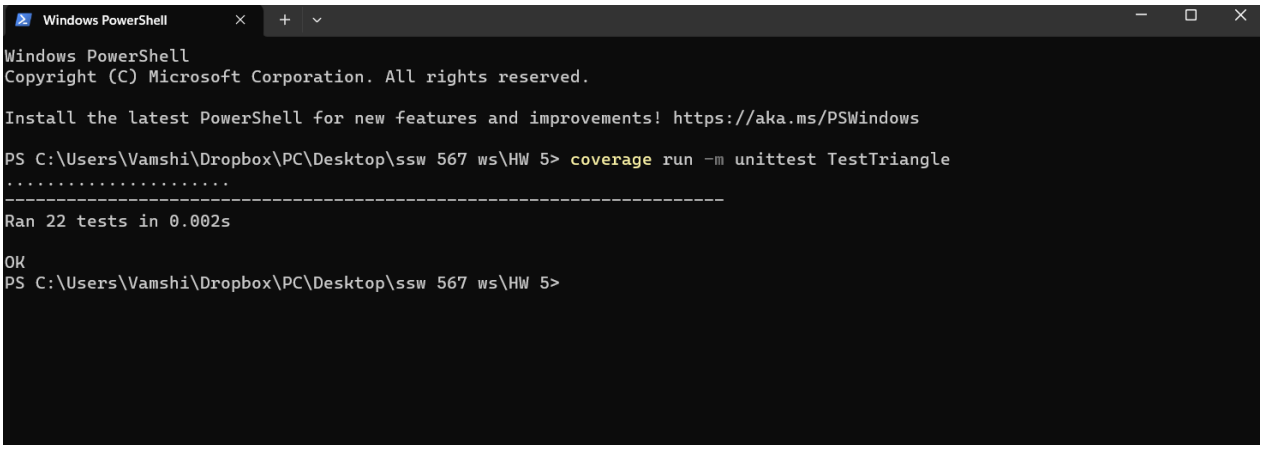

Code coverage after any changes to the programs (coverage should be > 80%)



Coverage HTML: