

Static Code Analysis

Assignment Description

The objective of this assignment is to apply the techniques from the lecture to static testing of your Triangles program.

Specifically:

You will run a static code analyzer on your code, e.g. Pylint, identify and fix any problems reported by the static code analyzer;

You will run a code coverage tool on your code, e.g. Coverage.py, and extend your test cases to demonstrate at least 80% code coverage;

In this assignment, you will need to download and install the tools that you will need for static code analysis and code coverage. You will then run those tools locally on your laptop to get the results.

Any changes that you make to your programs should be pushed up to GitHub.

Deliverables:

Submit a report with the following information :

The GitHub URL containing the code that was analyzed

The name and output of the static code analyzer tool you used;

The name and output of the code coverage tool you used;

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

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

Code coverage report before any changes to the program

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

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

As always, start with a summary at the top, and follow with more detailed results.

You'll find a nice tutorial on Pylint at

<https://www.blog.pythonlibrary.org/2012/06/12/pylint-analyzing-python-code/>Links to an external site. or many IDEs run Pylint automatically, e.g. VS Code and PyCharm both run Pylint on your code and display errors in the code window.

You'll find a nice tutorial on Coverage.py at

<https://www.blog.pythonlibrary.org/2016/07/20/an-intro-to-coverage-py/>Links to an external site. The idea is that coverage is a standalone program that analyzes your code and generates a nice HTML report that you can submit as part of your homework submission.

Author

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Summary

- Static Code Analyzer:

Tool: pylint

Output (Before):

```
PS D:\Coding\Stevens\SSW_567\Homework_2> pylint Triangle.py
>>
***** Module Triangle
Triangle.py:33:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:36:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:37:43: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:41:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:42:59: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:47:0: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:48:47: C0303: Trailing whitespace (trailing-whitespace)
Triangle.py:57:0: C0305: Trailing newlines (trailing-newlines)
Triangle.py:1:0: C0103: Module name "Triangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:12:0: C0103: Function name "classifyTriangle" doesn't conform to snake_case naming style (invalid-name)
Triangle.py:49:4: R1705: Unnecessary "elif" after "return", remove the leading "el" from "elif" (no-else-return)
Triangle.py:12:0: R0911: Too many return statements (8/6) (too-many-return-statements)

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Your code has been rated at 2.50/10
```

Output (After):

```
PS D:\Coding\Stevens\SSW_567\Homework_2> pylint Triangle.py
>>

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Your code has been rated at 10.00/10 (previous run: 10.00/10, +0.00)

PS D:\Coding\Stevens\SSW_567\Homework_2> |
```

- Code Coverage:

Tool: coverage.py

Output (Before): Because it is already at 96% no modifications were made to the code.

Coverage report: 96%

Files Functions Classes

coverage.py v7.6.4, created at 2024-10-30 16:41 -0400

File ▲	statements	missing	excluded	coverage
TestTriangle.py	28	2	0	93%
triangle.py	17	0	0	100%
Total	45	2	0	96%

coverage.py v7.6.4, created at 2024-10-30 16:41 -0400

Github

[Repository](#)

Honor Pledge

I pledge my honor that I have abided by the Stevens Honor System.