GitHub: https://github.com/xxyyIII/TriangleClassify567-hw0b

Static Analysis & Test Coverage Report

- **Static Analysis Tool:** Pylint (Final Score: 9.46 / 10)
- **Test Coverage Tool:** Coverage.py (Overall Coverage: 96%; `triangle.py` coverage: 92%)

Commit Contents:

- `triangle.py` (modified)
- Enhanced `unittest` test suite
- `.coveragerc` configuration file
- This report

Static Analysis Results Comparison (Pylint)

```
⊗ (.venv) immortal@MacBook-Air HW0 % pylint triangle.py

************* Module triangle
triangle.py:1:0: C0114: Missing module docstring (missing-module-docstring)
triangle.py:8:0: C0116: Missing function or method docstring (missing-function-docstring)
triangle.py:8:22: W0621: Redefining name 'a' from outer scope (line 50) (redefined-outer-name)
triangle.py:8:25: W0621: Redefining name 'b' from outer scope (line 51) (redefined-outer-name)
triangle.py:8:28: W0621: Redefining name 'c' from outer scope (line 52) (redefined-outer-name)
triangle.py:33:8: R1705: Unnecessary "else" after "return", remove the "else" and de-indent the cod
e inside it (no-else-return)
triangle.py:8:0: R0911: Too many return statements (8/6) (too-many-return-statements)
triangle.py:54:15: W0718: Catching too general exception Exception (broad-exception-caught)


------------------------------------------
Your code has been rated at 7.71/10
```

Issue List:

- Missing module/function docstrings
- Overly broad `Exception` type (W0718)
- Excessive use of return statements (R0911)
- Variable name redefinition and other related issues (W0621)

After modification:

```
⊗ (.venv) immortal@MacBook-Air HW0 % pylint triangle.py
************* Module triangle
triangle.py:8:0: R0911: Too many return statements (8/6) (too-many-return-statements)
triangle.py:55:15: W0718: Catching too general exception Exception (broad-exception-caught)

----------------------------------------------------------------------
Your code has been rated at 9.46/10 (previous run: 8.92/10, +0.54)
```

Fixed:

- Docstrings have been added to both main and helper functions.
- Redundant `else return` structures have been removed.
- Function structures have been streamlined for enhanced readability.

Test Coverage Results Comparison (Coverage.py)

Before:

```
(.venv) immortal@MacBook-Air HW0 % coverage report -m

Name                         Stmts   Miss  Cover   Missing
--------------------------------------------------------
test/test_triangle.py          32      1    97%    45
triangle.py                    35     11    69%    13, 45-55
--------------------------------------------------------
TOTAL                          67     12    82%
```

Issues:

- `triangle.py` coverage: 69%
- `test_triangle.py` coverage: 97%
- Untested lines in `triangle.py`: 13, 45-55 (primarily interactive logic)

After modification:

```
(.venv) immortal@MacBook-Air HW0 % coverage report -m

Name                         Stmts   Miss  Cover   Missing
--------------------------------------------------------
test/test_triangle.py          54      1    98%    82
triangle.py                    40      3    92%    59-60, 63
--------------------------------------------------------
TOTAL                          94      4    96%
```

- `triangle.py` coverage: 92%
- `test_triangle.py` coverage: 98%
- Only 3 lines remain uncovered (lines 59-60, 63)