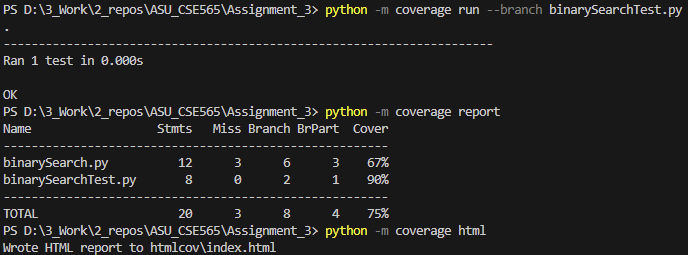
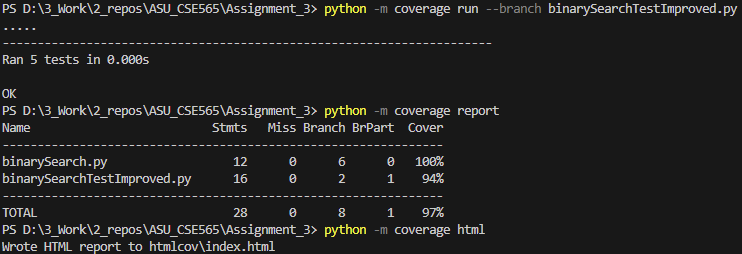
CSE565 Structural Based Testing

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1. **Control Flow Coverage**
   1. Tool: Coverage.py 7.6.7 <https://coverage.readthedocs.io/en/latest/index.html>
   2. Coverage.py provides 1. Branch/ Decision coverage and 2. Statement Coverage.
   3. Test cases: binarySearchTest.py and binarySearchTestImproved.py.
   4. First set of test cases’ result

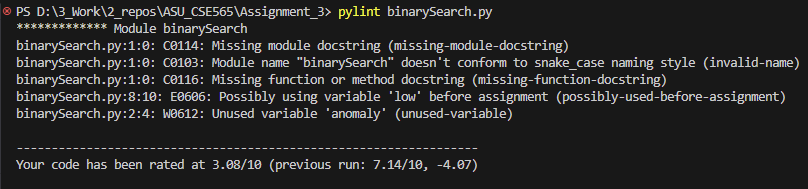


* 1. Second set of test cases’ result



* 1. Coverage.py is easy to set up and operate, offering a variety of report formats, but it lacks a GUI.
  2. Other report format screen shots: binarySearchTestHTML.png and binarySearchTestImprovedHTML.png

1. **Static Source Code Analysis**
   1. Tool: Pylint 3.3.1 <https://www.pylint.org/>
   2. Pylint provides 1. Static code analysis, 2. Code style check, 3. Code quality metrics, etc.
   3. Analysis result



* 1. Pylint offer comprehensive code analysis, but it may generate a large number of reports.

1. **Reference**
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   2. Coverage.py, "Coverage.py documentation," Read the Docs. [Online]. Available: https://coverage.readthedocs.io/en/7.6.7/index.html. [Accessed: Nov. 15, 2024].
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   7. Pylint, "Pylint: Python static code analysis," [Online]. Available: https://www.pylint.org/. [Accessed: Nov. 15, 2024].
      1. Mypy, "Mypy: Optional static typing for Python," [Online]. Available: https://mypy-lang.org/. [Accessed: Nov. 15, 2024].