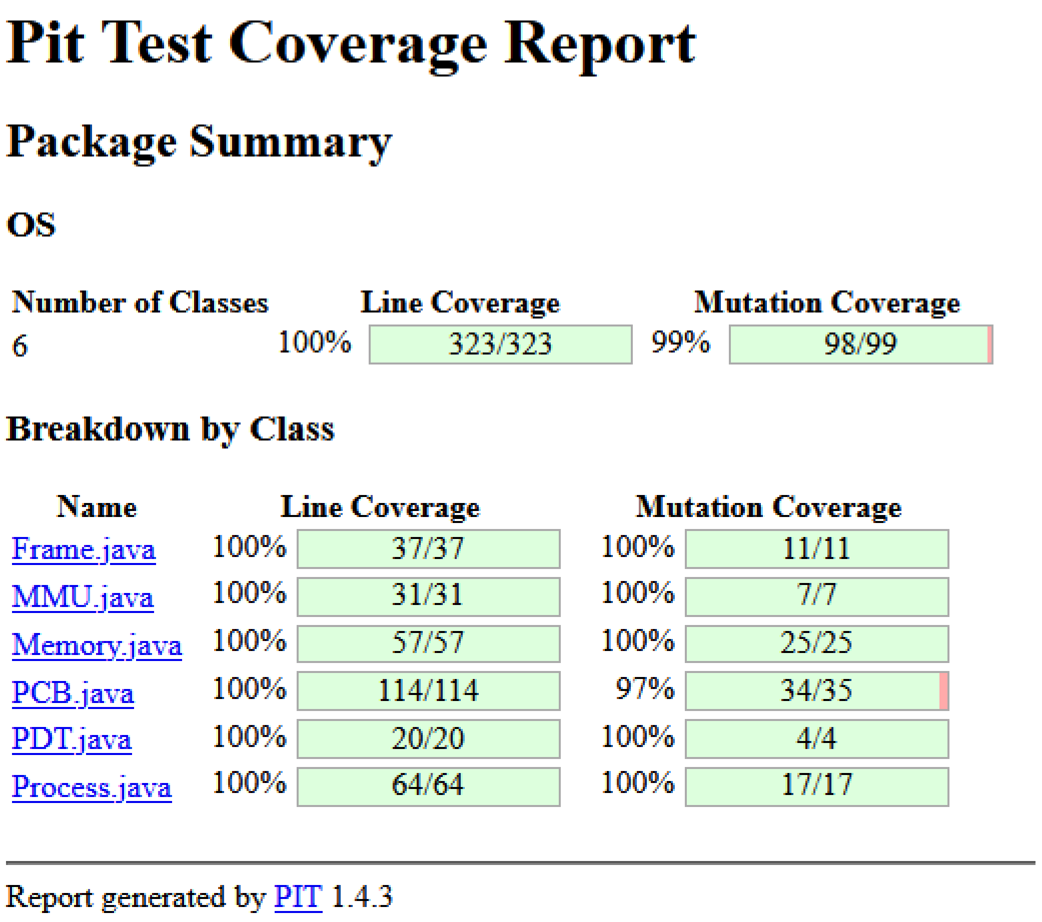
CMSC 525 - Assignment #5
Test Report Document
Gavin Alberghini

Test Development Steps:

1. Select a class for testing
2. Utilize JUnitGenerator to generate Junit skeletons
3. Configure PIT and IDEA Coverage Plugins to include the new class in coverage calculations
4. Implement Junit tests
5. Analyze results of coverage reports
6. Repeat steps 4 and 5 until desired coverage is reached

Test Coverage Reports:

- **PIT Coverage Report for final iteration:**



Pit Test Coverage Report

Package Summary

OS

Number of Classes	Line Coverage		Mutation Coverage	
6	100%	323/323	99%	98/99

Breakdown by Class

Name	Line Coverage		Mutation Coverage	
Frame.java	100%	37/37	100%	11/11
MMU.java	100%	31/31	100%	7/7
Memory.java	100%	57/57	100%	25/25
PCB.java	100%	114/114	97%	34/35
PDT.java	100%	20/20	100%	4/4
Process.java	100%	64/64	100%	17/17

Report generated by PIT 1.4.3

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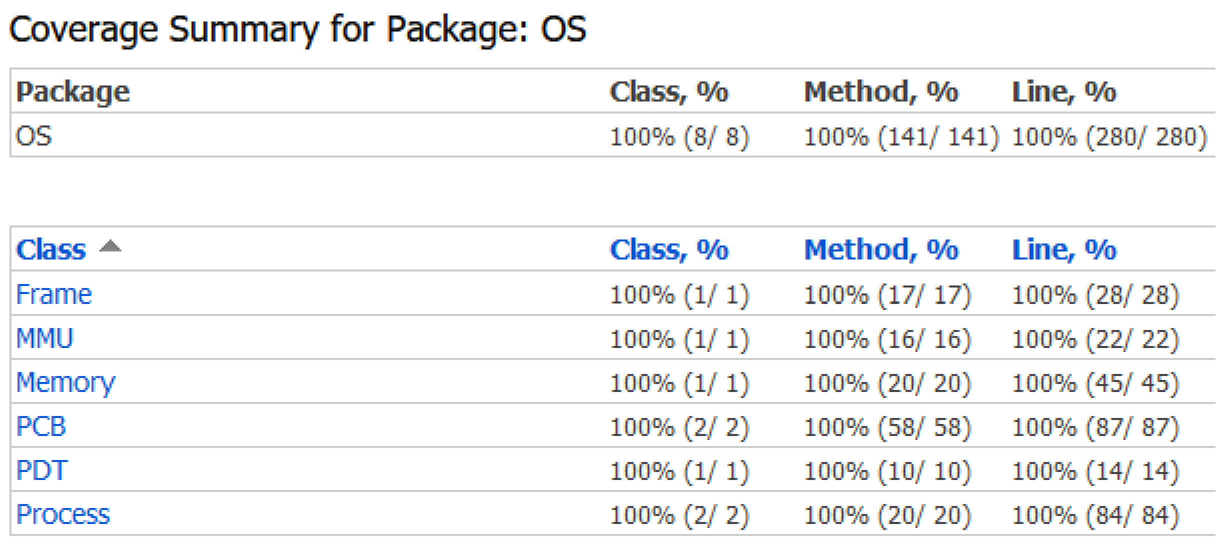
- **IDEA Coverage Report for final iteration:**



Coverage Summary for Package: OS

Package	Class, %	Method, %	Line, %
OS	100% (8/ 8)	100% (141/ 141)	100% (280/ 280)

Class ▲	Class, %	Method, %	Line, %
Frame	100% (1/ 1)	100% (17/ 17)	100% (28/ 28)
MMU	100% (1/ 1)	100% (16/ 16)	100% (22/ 22)
Memory	100% (1/ 1)	100% (20/ 20)	100% (45/ 45)
PCB	100% (2/ 2)	100% (58/ 58)	100% (87/ 87)
PDT	100% (1/ 1)	100% (10/ 10)	100% (14/ 14)
Process	100% (2/ 2)	100% (20/ 20)	100% (84/ 84)

Discoveries:

Through the course of this assignment, I felt that I had gotten a better understanding as to the difficulties of being the developer and tester for a project. As a developer, some methods are designed for simplicity, but they can be implemented in such a way that is difficult for the tester. I was also surprised how easy it was to integrate testing plugins into the project. The assignment helped to reinforce the point that testing and coverage are essential for large scale projects and there is a large pool of tools to assist in these tasks.

Notes:

Project Class Directory - https://github.com/gavinjalberghini/Operating-System-Simulation/tree/master/OS_Simulation_Testing/src/OS

Test Class Directory - https://github.com/gavinjalberghini/Operating-System-Simulation/tree/master/OS_Simulation_Testing/src/test/OS

PIT and IDEA Coverage Reports - https://github.com/gavinjalberghini/Operating-System-Simulation/tree/master/OS_Simulation_Testing/report