Testing and coverage task 4

The conducted test focus on the implemented changes to the code in the data management and alerts packages. As a result, they do not test the program as integrated part yet which is reflected in the JaCoCo coverage report.

cardio_generator

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
com.cardio_generator.generators		0%		0%	24	24	104	104	16	16	5	5
com.cardio_generator		0%		0%	26	26	83	83	13	13	1	1
com.cardio_generator.outputs		0%		0%	18	18	60	60	16	16	5	5
com.data_management		65%		66%	8	31	26	73	3	19	1	5
com.alerts		88%		78%	9	36	4	61	0	10	0	2
com		0%		0%	4	4	5	5	2	2	1	1
Total	1,312 of 1,789	26%	67 of 124	45%	89	139	282	386	50	76	13	19

Created with JaCoCo

The tests cover a significant portion of the DataStorage and Patient classes, verifying the core functionality of adding and retrieving patient data and records. However, there are areas that lack testing or have incomplete coverage. The tests cover wide ranges of cases, such as verifying:

-that patient data can be added to the storage and retrieved correctly,

-that an empty list is returned when no records exist for a specific patient and time range,

-that records within a specified time range are retrieved correctly,

-that all patients can be retrieved from the storage,

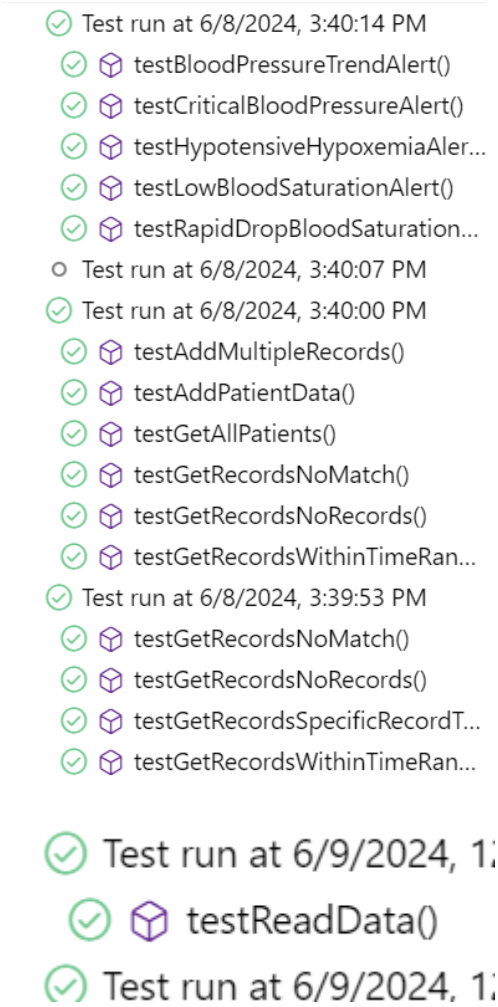
-that an empty list is returned when no records exist for a patient,

-that records of a specific type are retrieved correctly,

-that no records are returned when there are no matches for the specified criteria.

The DataReader interface and FileDataReader class are not directly tested, which means the actual functionality of reading data from a file is not verified. Instead, the test uses a MockDataReader object, that uses similar logic, but works with hard coded data. This is a major flaw, since it doesn't test issues that can arise while reading the data. The tests merely ensure that the flow of the read information within tested modules is correct.

Screen shots of tests being passed:


Test run at 6/8/2024, 3:40:14 PM
testBloodPressureTrendAlert()
testCriticalBloodPressureAlert()
testHypotensiveHypoxemiaAler...
testLowBloodSaturationAlert()
testRapidDropBloodSaturation...
Test run at 6/8/2024, 3:40:07 PM
Test run at 6/8/2024, 3:40:00 PM
testAddMultipleRecords()
testAddPatientData()
testGetAllPatients()
testGetRecordsNoMatch()
testGetRecordsNoRecords()
testGetRecordsWithinTimeRan...
Test run at 6/8/2024, 3:39:53 PM
testGetRecordsNoMatch()
testGetRecordsNoRecords()
testGetRecordsSpecificRecordT...
testGetRecordsWithinTimeRan...

Test run at 6/9/2024, 1
testReadData()
Test run at 6/9/2024, 1