


















# Code Coverage Documentation











## cardio\_generator

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
com.cardio_generator.outputs		48%		0%	10	18	32	55	8	16	1	5
com.data_management		78%		81%	4	30	16	71	2	19	0	4
com.cardio_generator.generators		89%		81%	2	24	14	101	0	16	0	5
com.cardio_generator		88%		70%	6	26	16	90	0	13	0	1
com.alerts		100%		90%	2	19	0	31	0	8	0	2
Total	318 of 1,689	81%	20 of 88	77%	24	117	78	348	10	72	1	17








## com.data\_management

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
DataStorage		53%		60%	3	10	12	28	1	5	0	1
FileDataReader		92%		100%	0	8	3	20	0	5	0	1
Patient		95%		100%	1	7	1	13	1	4	0	1
PatientRecord		100%	n/a	n/a	0	5	0	10	0	5	0	1
Total	69 of 318	78%	4 of 22	81%	4	30	16	71	2	19	0	4



## com.cardio\_generator.generators

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
AlertGenerator		67%		62%	2	7	6	19	0	3	0	1
BloodLevelsDataGenerator		94%		100%	0	4	2	21	0	3	0	1
BloodPressureDataGenerator		94%		100%	0	4	2	24	0	3	0	1
ECGDataGenerator		93%		100%	0	5	2	21	0	4	0	1
BloodSaturationDataGenerator		90%		100%	0	4	2	16	0	3	0	1
Total	52 of 504	89%	3 of 16	81%	2	24	14	101	0	16	0	5




## com.cardio\_generator.outputs

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
TcpOutputStrategy		0%		0%	4	4	17	17	3	3	1	1
WebSocketOutputStrategy		32%		0%	2	3	4	9	1	2	0	1
WebSocketOutputStrategy.SimpleWebSocketServer		30%	n/a	n/a	4	6	7	11	4	6	0	1
FileOutputStrategy		86%	n/a	n/a	0	3	4	15	0	3	0	1
ConsoleOutputStrategy		100%	n/a	n/a	0	2	0	3	0	2	0	1
Total	151 of 296	48%	4 of 4	0%	10	18	32	55	8	16	1	5

## com.cardio\_generator

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
HealthDataSimulator		88%		70%	6	26	16	90	0	13	0	1
Total	46 of 401	88%	7 of 24	70%	6	26	16	90	0	13	0	1

## com.alerts

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
AlertGenerator		100%		90%	2	15	0	23	0	4	0	1
Alert		100%	n/a	n/a	0	4	0	8	0	4	0	1
Total	0 of 170	100%	2 of 22	90%	2	19	0	31	0	8	0	2

## Untested Parts of the Code and Reasons

- **Output Strategies**

Not fully tested: Console, file, WebSocket, and TCP outputs.

Reason: Hard to test I/O operations and network connections.

- **HealthDataSimulator**

Partially tested: Main method, argument parsing, task scheduling, and help print.

Reason: Difficult to mock and verify scheduler tasks.

- **AlertGenerator**

Not fully tested: Some health metric evaluations and edge cases.

Reason: Complex logic and mocking patient records.

- **Data storage**

Mostly tested: Concurrency and some edge cases caused test failures.

Reason: Hard to ensure data consistency in multi-threaded environment.