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| **Mutations** |
| [4](file:///C:\\Users\\user\\eclipse-workspace\\.metadata\\.plugins\\org.pitest.pitclipse.core\\html_results\\202201012133\\default\\CalculatorExample2.java.html" \l "org.pitest.mutationtest.report.html.SourceFile@54e7df6a_4) |  | 1.**1** **Location :** add **Killed by :** CalculatorTest.testadd(CalculatorTest) Replaced integer addition with subtraction → KILLED  2.**2** **Location :** add **Killed by :** CalculatorTest.testadd(CalculatorTest) replaced int return with 0 for CalculatorExample2::add → KILLED |
| [9](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_9) |  | 1.**1** **Location :** subtract **Killed by :** CalculatorTest.testsubtract(CalculatorTest) Replaced integer subtraction with addition → KILLED  2.**2** **Location :** subtract **Killed by :** CalculatorTest.testsubtract(CalculatorTest) replaced int return with 0 for CalculatorExample2::subtract → KILLED |
| [14](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_14) |  | 1.**1** **Location :** multiply **Killed by :** CalculatorTest.testmultiply(CalculatorTest) Replaced integer multiplication with division → KILLED  2.**2** **Location :** multiply **Killed by :** CalculatorTest.testmultiply(CalculatorTest) replaced int return with 0 for CalculatorExample2::multiply → KILLED |
| [18](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_18) |  | 1.**1** **Location :** divide **Killed by :** CalculatorTest.testdivide(CalculatorTest) Replaced integer division with multiplication → KILLED  2.**2** **Location :** divide **Killed by :** CalculatorTest.testdivide(CalculatorTest) replaced int return with 0 for CalculatorExample2::divide → KILLED |
| [24](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_24) |  | 1.**1** **Location :** summation **Killed by :** CalculatorTest.testsummation(CalculatorTest) changed conditional boundary → KILLED  2.**2** **Location :** summation **Killed by :** CalculatorTest.testsummation(CalculatorTest) negated conditional → KILLED |
| [25](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_25) |  | 1.**1** **Location :** summation **Killed by :** CalculatorTest.testsummation(CalculatorTest) Replaced integer addition with subtraction → KILLED |
| [26](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_26) |  | 1.**1** **Location :** summation **Killed by :** CalculatorTest.testsummation(CalculatorTest) Changed increment from -1 to 1 → KILLED |
| [28](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_28) |  | 1.**1** **Location :** summation **Killed by :** CalculatorTest.testsummation(CalculatorTest) replaced int return with 0 for CalculatorExample2::summation → KILLED |
| [33](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_33) |  | 1.**1** **Location :** isPostive **Killed by :** CalculatorTest.tesisPostive(CalculatorTest) replaced boolean return with false for CalculatorExample2::isPostive → KILLED  2.**2** **Location :** isPostive **Killed by :** CalculatorTest.tesisPostive(CalculatorTest) replaced boolean return with true for CalculatorExample2::isPostive → KILLED  3.**3** **Location :** isPostive **Killed by :** CalculatorTest.tesisPostive(CalculatorTest) changed conditional boundary → KILLED  4.**4** **Location :** isPostive **Killed by :** CalculatorTest.tesisPostive(CalculatorTest) negated conditional → KILLED |
| [39](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_39) |  | 1.**1** **Location :** compare **Killed by :** CalculatorTest.testcompare(CalculatorTest) changed conditional boundary → KILLED  2.**2** **Location :** compare **Killed by :** CalculatorTest.testcompare(CalculatorTest) negated conditional → KILLED |
| [41](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_41) |  | 1.**1** **Location :** compare **Killed by :** CalculatorTest.testcompare(CalculatorTest) changed conditional boundary → KILLED  2.**2** **Location :** compare **Killed by :** CalculatorTest.testcompare(CalculatorTest) negated conditional → KILLED |
| [45](file:///C:\Users\user\eclipse-workspace\.metadata\.plugins\org.pitest.pitclipse.core\html_results\202201012133\default\CalculatorExample2.java.html#org.pitest.mutationtest.report.html.SourceFile@54e7df6a_45) |  | 1.**1** **Location :** compare **Killed by :** CalculatorTest.testcompare(CalculatorTest) replaced int return with 0 for CalculatorExample2::compare → KILLED |

**Active mutators**

* BOOLEAN\_FALSE\_RETURN
* BOOLEAN\_TRUE\_RETURN
* CONDITIONALS\_BOUNDARY\_MUTATOR
* EMPTY\_RETURN\_VALUES
* INCREMENTS\_MUTATOR
* INVERT\_NEGS\_MUTATOR
* MATH\_MUTATOR
* NEGATE\_CONDITIONALS\_MUTATOR
* NULL\_RETURN\_VALUES
* PRIMITIVE\_RETURN\_VALS\_MUTATOR
* VOID\_METHOD\_CALL\_MUTATOR

**Tests examined**

* CalculatorTest.testadd(CalculatorTest) (1 ms)
* CalculatorTest.testsubtract(CalculatorTest) (1 ms)
* CalculatorTest.testmultiply(CalculatorTest) (0 ms)
* CalculatorTest.testsummation(CalculatorTest) (1 ms)
* CalculatorTest.testcompare(CalculatorTest) (1 ms)
* CalculatorTest.tesisPostive(CalculatorTest) (11 ms)
* CalculatorTest.testdivide(CalculatorTest) (1 ms)

- Mutators

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> org.pitest.mutationtest.engine.gregor.mutators.BooleanTrueReturnValsMutator

>> Generated 1 Killed 1 (100%)

> KILLED 1 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.ConditionalsBoundaryMutator

>> Generated 4 Killed 4 (100%)

> KILLED 4 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.IncrementsMutator

>> Generated 1 Killed 1 (100%)

> KILLED 1 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.MathMutator

>> Generated 5 Killed 5 (100%)

> KILLED 5 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.BooleanFalseReturnValsMutator

>> Generated 1 Killed 1 (100%)

> KILLED 1 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.PrimitiveReturnsMutator

>> Generated 6 Killed 6 (100%)

> KILLED 6 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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> org.pitest.mutationtest.engine.gregor.mutators.NegateConditionalsMutator

>> Generated 4 Killed 4 (100%)

> KILLED 4 SURVIVED 0 TIMED\_OUT 0 NON\_VIABLE 0

> MEMORY\_ERROR 0 NOT\_STARTED 0 STARTED 0 RUN\_ERROR 0

> NO\_COVERAGE 0

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- Timings

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> scan classpath : < 1 second

> coverage and dependency analysis : < 1 second

> build mutation tests : < 1 second

> run mutation analysis : 2 seconds

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> Total : 3 seconds

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- Statistics

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>> Generated 22 mutations Killed 22 (100%)

>> Ran 22 tests (1 tests per mutation)