TESSY V4.3 Features

New features in TESSY V4.3 (compared to TESSY V4.2)

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1 Mutation Testing

TESSY automates mutation testing.

**Fig. 1 The mutation test cycle**

**Fig. 2 The available mutations for logical operators**
Fig. 3 The available mutations for relational operators

Fig. 4 Mutation test result
2 Test Environment Editor (TEE)

The TEE is now a perspective in TESSY, and no longer a separate application.

Fig. 5 TEE perspective in TESSY
3 Pattern for the Test Result

Prior to a test, the memory area of the test result is initialized with a pattern. The tests are repeated two times, with different patterns. This shall make sure that the test result is not passed by chance, because a passed test has definitely written the test result properly.

4 Tests without Instrumentation

Tests are run without instrumentation, to prevent tests that are passed because of instrumentation. This verifies that the instrumentation by TESSY was done correctly.

Instrumentation is needed for:

- Code Coverage
- Call Trace
- Fault injection
- Local static variables

This feature is especially useful for verifying the behavior of code instrumented for coverage vs. the original source code.

5 The Author

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Any comments or questions to this document are welcome.