

## Chapter 4: Test Specifications

- Format:
  - Test 3:
    - Global is initially 5; setglobal(3,7);
  - Expect
    - return value is -1; global is 3
- Describe exact, complete inputs.

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## Marking requirements

- Test requirements initially marked 0.
- Increment each time satisfied by test.
- Satisfy many test requirements with a single test specification.

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## Combining rules

- Each test specification should satisfy as many test requirements as is reasonable.
- All test requirements must be satisfied.
- If you must choose among test requirements, choose the one that is satisfied least.
- Avoid repeating values; add variety.

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## Need for complex tests (4.2.1)

- Think about bugs which are not revealed by simple tests.

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## Error test specifications (4.3)

- Normally: use as many requirements per test as possible.
- Exception: Test each error in isolation.  
Reason: errors often mask each other.

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## Rules for test content

- Foreground modifications must be visible.  
(variables a test would change)
- Background variables must be visible.  
(variables that should not be modified)
- Is accidental correctness avoided?  $A+A$ ,  
 $A*A$ ,  $A=2$
- Test requirements must be exercised
- Make inputs distinct.

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## Combine with white box testing (4.7.2)

- Build new checklist from code, generating test requirements from the code.
- New tests or update old ones?
- Updating old test preferable since it leads to fewer, more complex tests. But sometimes better to write new test (could invalidate old test requirements).

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## Test Drivers and Suite Drivers (chapter 5)

- All tests for a product should be collected into a regression test suite.
- Rerun test suite periodically.
- Test driver: runs one test
- Suite driver: runs entire suite

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