Brighter Blue

Basic Testing

Days 7 and 8: Test Execution and Reporting
(with Case Study)

IBM

Agenda

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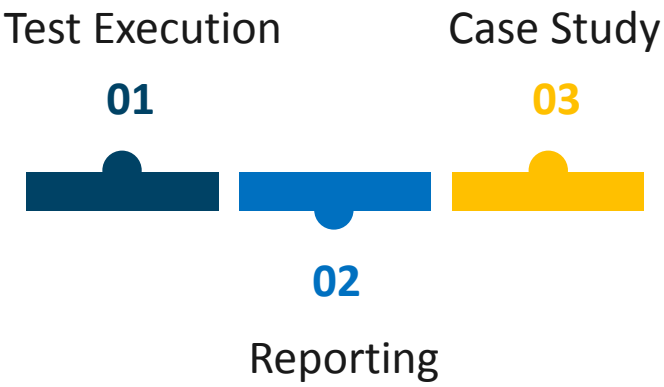
Day 07 and 08



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01 Test Execution

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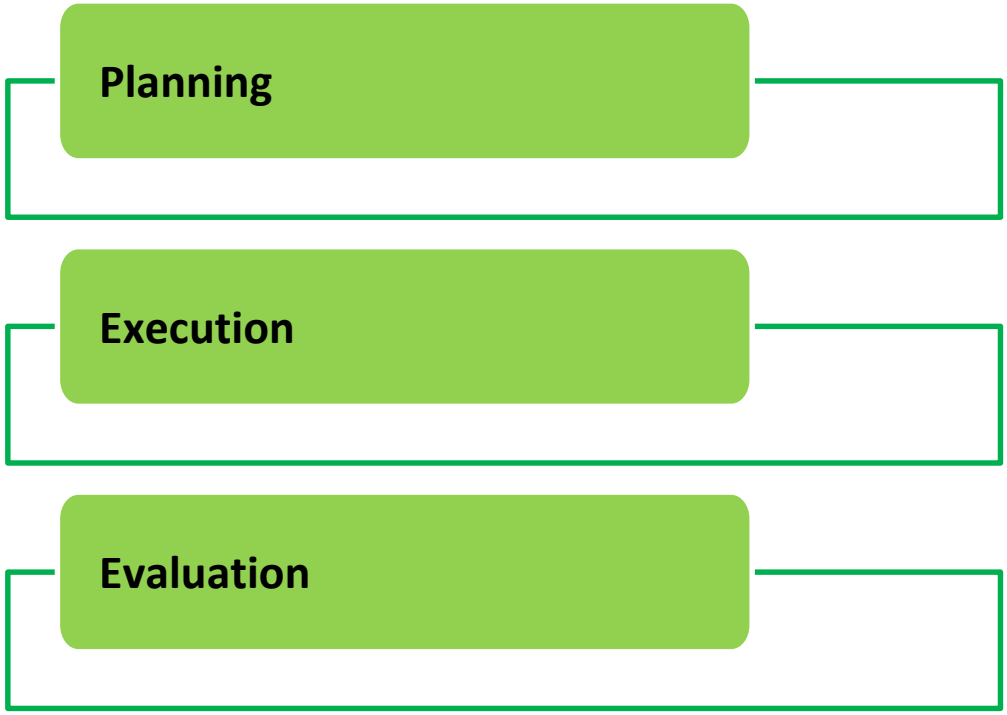
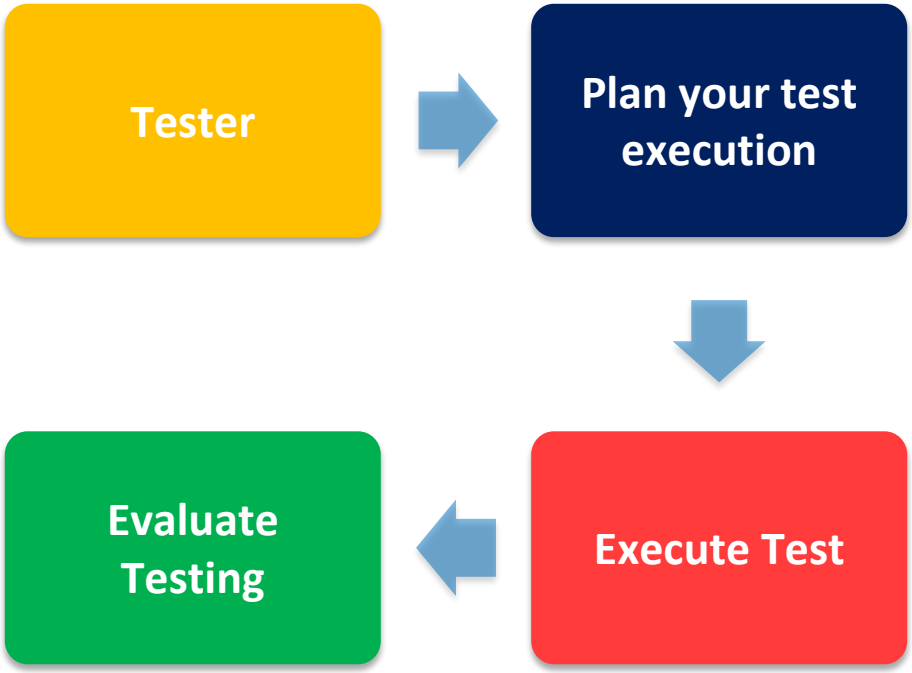
General Test Procedure (1 of 3)

A single test normally includes three steps:



General Test Procedure (2 of 3)



General test procedure (continued)

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Plan Your Text Execution

If I click OK, without input into text field, the application will probably crash.

Execute Test

Let's see if it does.

Evaluate Testing

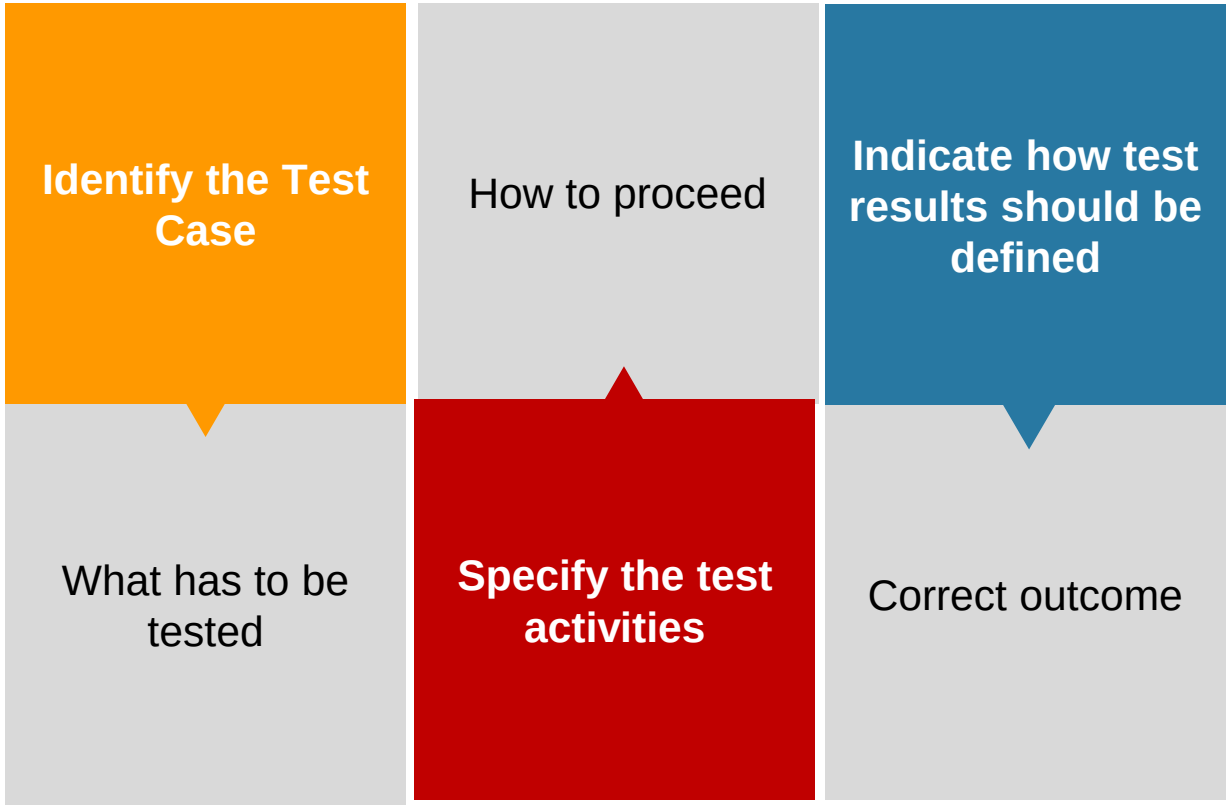
It sure did!

Planning

Planning

- It is the first step to determine what should be tested--also referred to as test case design
- Design the test cases (inputs and outputs) used to test the system

Planning (continued)



Execution

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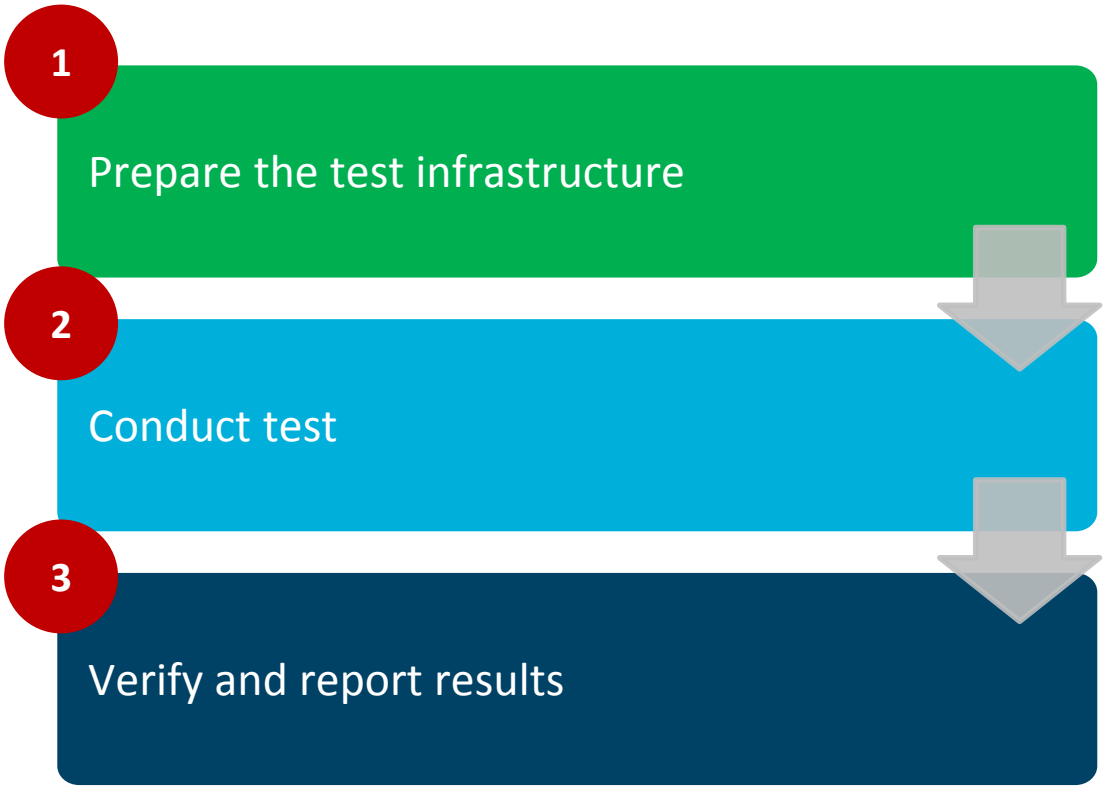
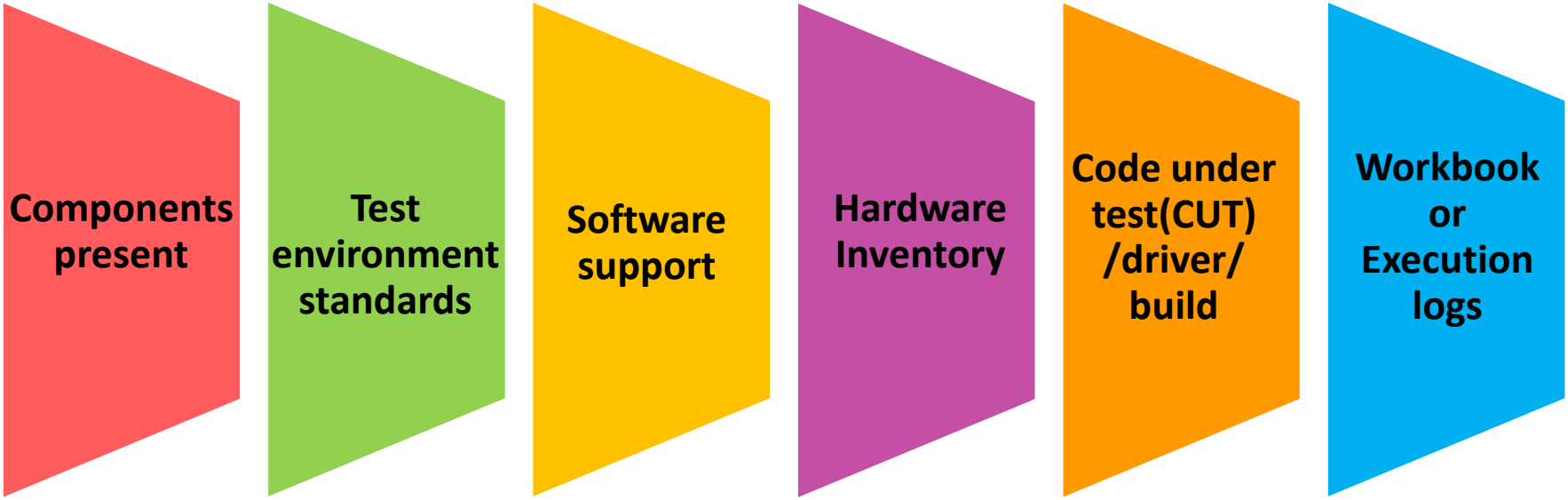
Execution of a test is a **three**-step process:



Prepare test infrastructure



Test Environment Rational

Test Effectiveness

- Adequate test environments are vital towards test effectiveness, especially in the area of non-functional testing.

Timely Availability

- It is important that a test environment is timely available for efficient testing.

Appropriate Environment

- Development environment
- Testing environment
- Acceptance environment
- Production environment

Simulate Adequately

- Testing conditions simulate production conditions.

Tailored to Need

- Test environments cater to specific test needs.

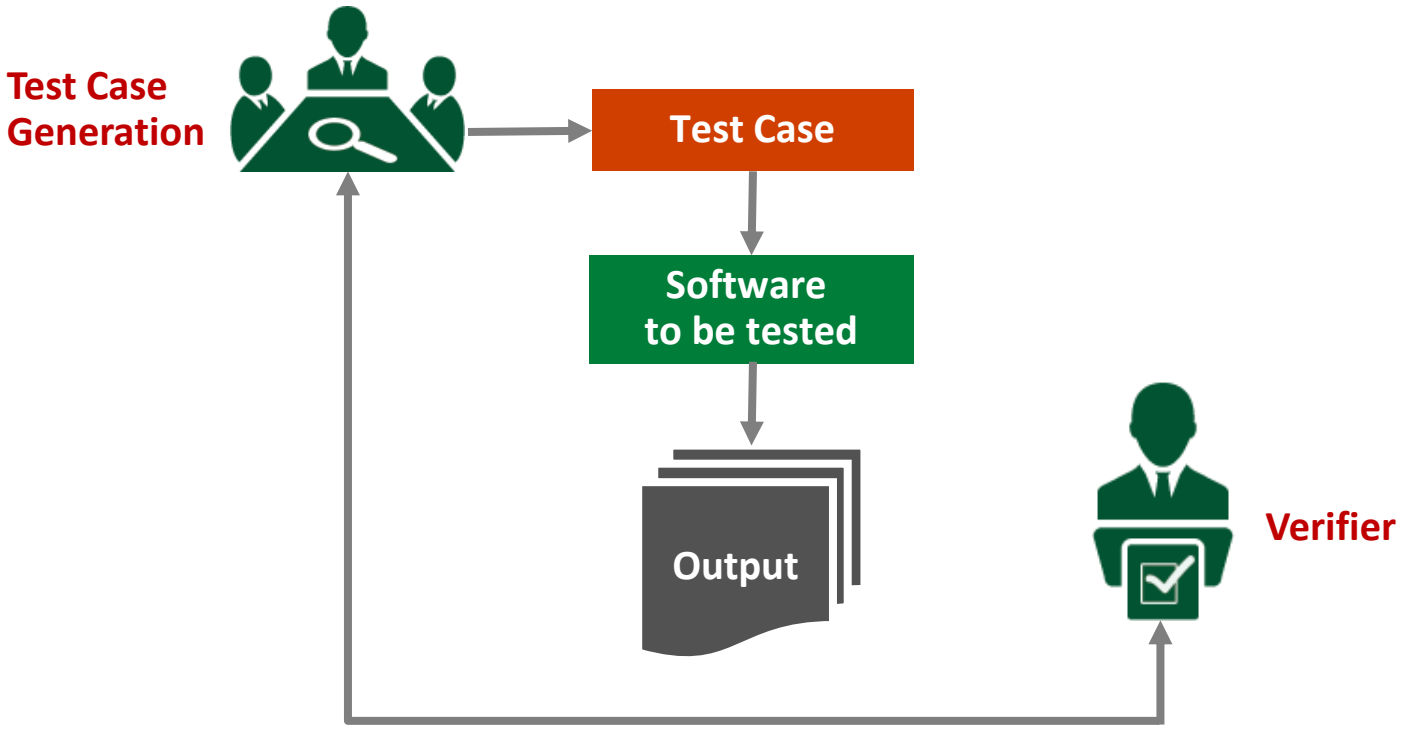
Conduct test

Execute test case

- The purpose of the task is to implement the test execution plan, produce test results, and compare between the expected test results and actual test results.
- Execute each test exactly as defined in the test-case implementation.

Execute test case

The process to execute a test case is shown below.



02 Reporting

Test Execution Status Report

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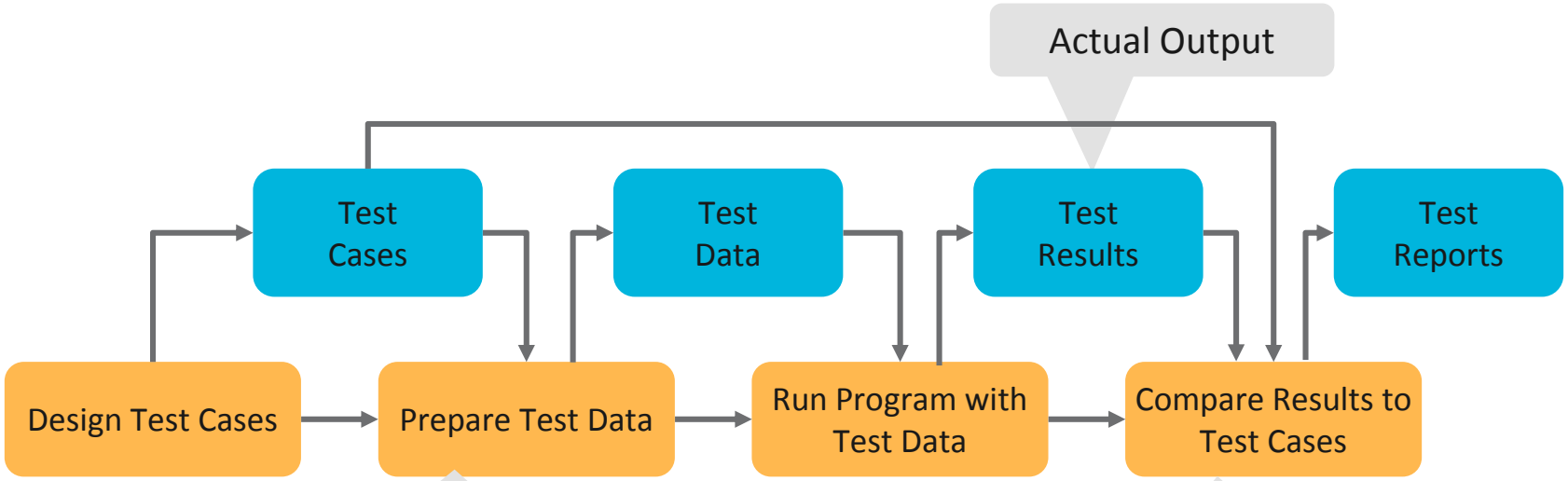
Test Execution Status Report

- This is a communication sent out to establish transparency to the QA team's activities of the day during the test cycle.
- This includes both defect information and test case run information.
- It is sent to Development, Environment support, Business analyst, and the Project teams.

Testing process



Test case : Specifies

- Inputs + pre-test state of the product / software
- Expected results (outputs and state)

Comparison Process

Testing policies

Only exhaustive testing can show a program is free from defects. However, exhaustive testing is impossible.

Testing policies define the approach to be used in selecting system tests:

All functions should be tested.

Where user input is required, all functions must be tested with correct and incorrect input.

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Testing guidelines

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Testing guidelines are hints for the testing team to help them choose tests that will reveal defects in a system.

Enter all positive / correct data to validate the happy path of testing.

Choose inputs that force the system to generate all error messages:

- Design inputs that cause buffers to overflow
- Repeat the same input or input series several times
- Force invalid outputs to be generated
- Force computation results can be too large or too small

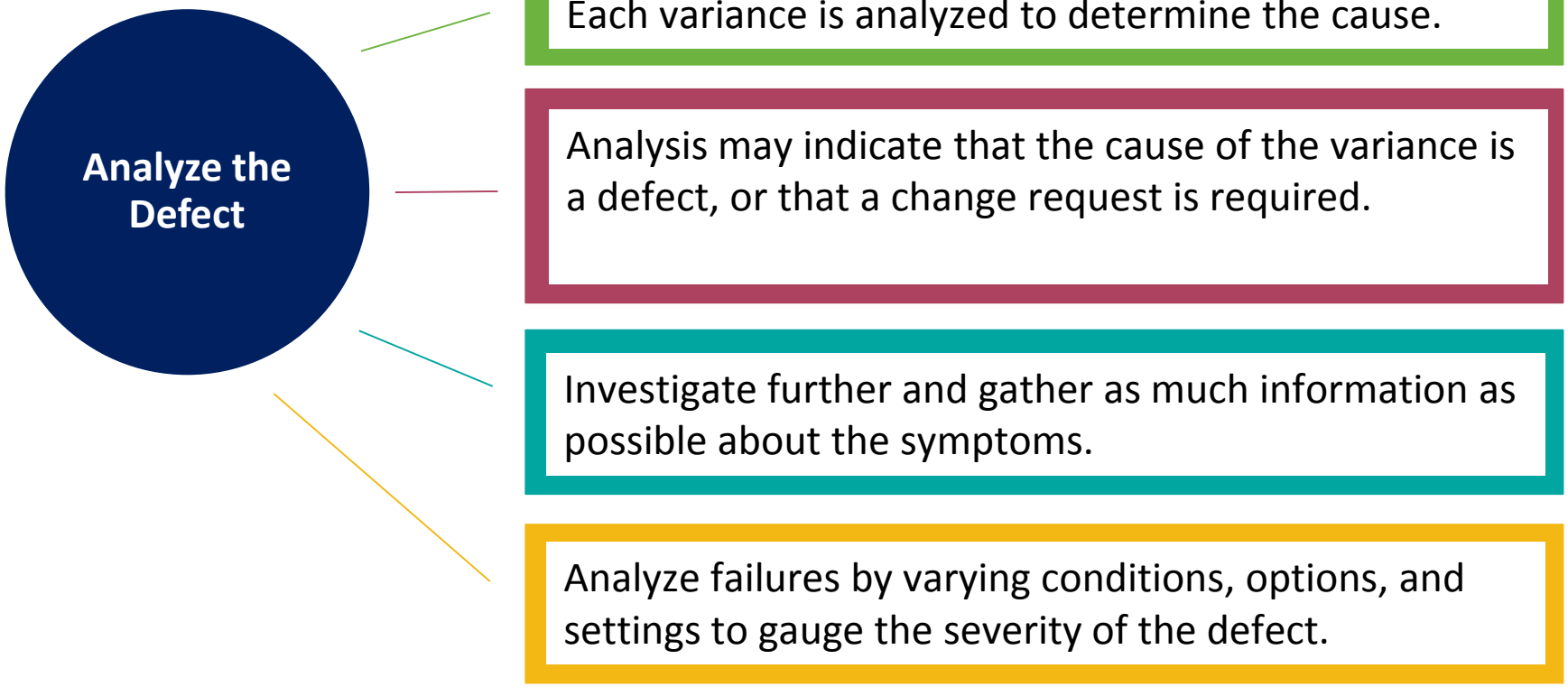
3

Defects

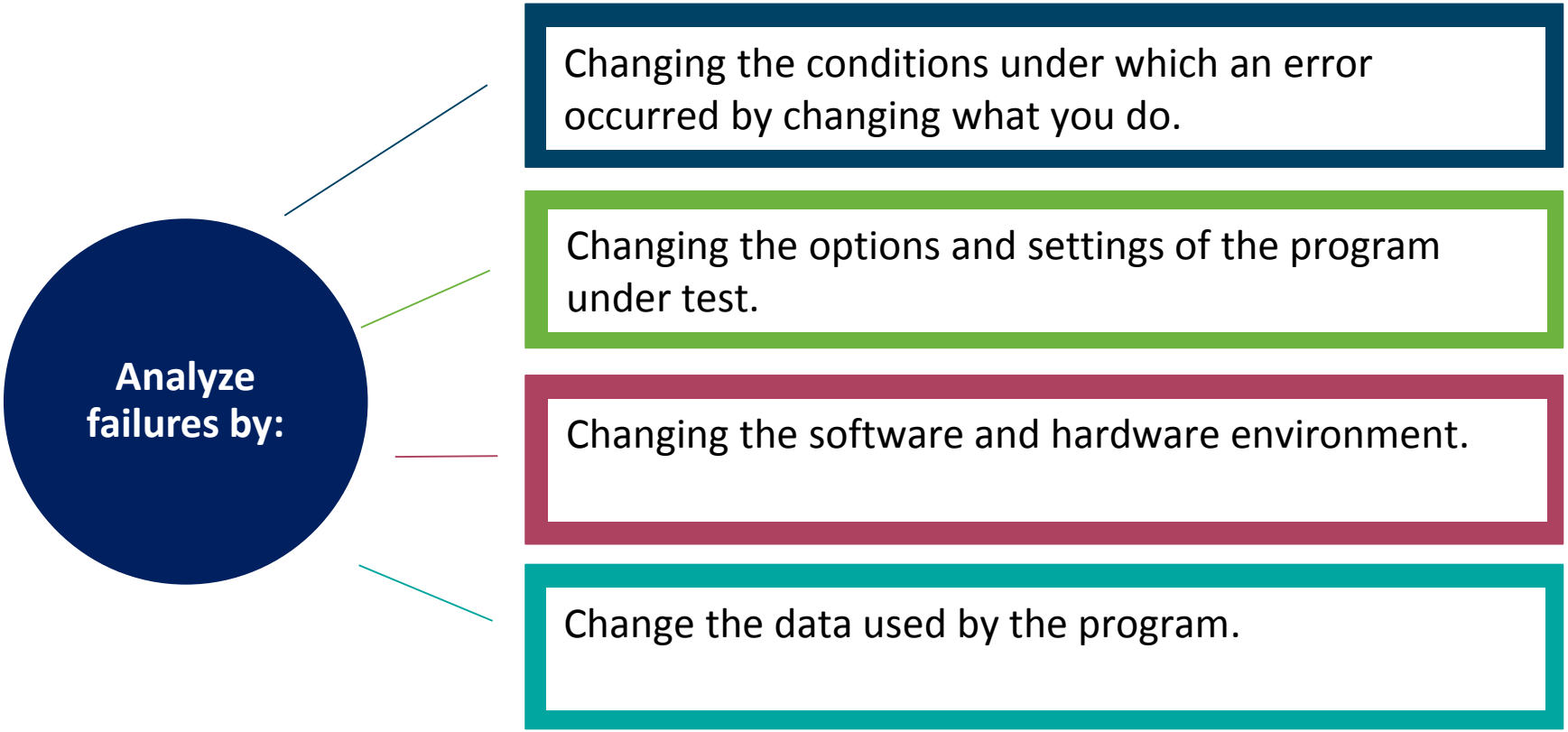
Verify the existence of the defect

- Verify that the element under test, the execution environment, and the test case-implementation are consistent with the test case design.
- Verify and confirm the discrepancy between the expected test results and actual test results.

Analyze the Defect



Analyze Failures by varying Conditions, Options, and Settings



03 Case Study

Case Study: Day 8—Test Case Execution and Reporting

Let us get started with some real life case studies now. Here is what you need to do:

- Work with your team as per instructions from the facilitator
- Assign the test cases to the tester as per the test plan in RQM
- The testers would execute the application using the test cases and record the defects in RQM
- The observer would observe the defect recording style of testers
- Share your key takeaways with the class on the steps you took to prepare the test cases (30 mins)

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