



# Software Quality Assurance

## HNDIT-4022

Black Box Testing

# What Is Black Box Testing



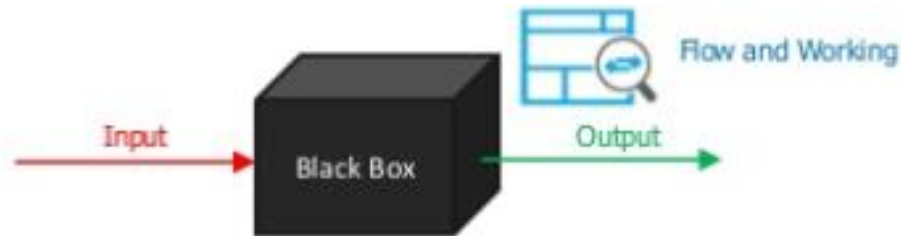
Black-box testing is a type of software testing in which the tester is not concerned with the internal knowledge or implementation details of the software but rather focuses on validating the functionality based on the provided specifications or requirements.

# Black Box Testing

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Black Box Testing : tester tests the application software by applying different inputs and comparing the output with expected results.

It is also known as Behavioural Testing.



# Types Of Black Box Testing



The following are the several categories of black box testing:

- Functional Testing
- Regression Testing
- Nonfunctional Testing (NFT)

## What can be identified by Black Box Testing

- Discovers missing functions, incorrect function & interface errors
- Discover the errors faced in accessing the database
- Discovers the errors that occur while initiating & terminating any functions.
- Discovers the errors in performance or behaviour of software.

# Techniques in Black Box Testing



- Boundary Value Analysis
- Equivalence class partitioning
- Decision Table based testing
- State Transition
- Error guessing

# Advantages of Black Box Testing



- The tester does not need to have more functional knowledge or programming skills to implement the Black Box Testing.
- It is efficient for implementing the tests in the larger system.
- Tests are executed from the user's or client's point of view.
- Test cases are easily reproducible.
- It is used to find the ambiguity and contradictions in the functional specifications.

# Disadvantages of Black Box Testing

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- There is a possibility of repeating the same tests while implementing the testing process.
- Without clear functional specifications, test cases are difficult to implement.
- It is difficult to execute the test cases because of complex inputs at different stages of testing.
- Sometimes, the reason for the test failure cannot be detected.
- Some programs in the application are not tested.
- It does not reveal the errors in the control structure.
- Working with a large sample space of inputs can be exhaustive and consumes a lot of time.

# Features of black box testing



- Independent testing
- Testing from a user's perspective
- No knowledge of internal code
- Requirements-based testing
- Different testing techniques
- Easy to automate
- Scalability
- Limited knowledge of application



# Tools Used for Black Box Testing:



- ☐ Appium
- ☐ Selenium
- ☐ Microsoft Coded UI
- ☐ Applitools
- ☐ HP QTP.

# Black Box Vs White Box Testing

Area	Black Box Testing	White Box Testing
Testing objectives	mainly focused on testing the functionality of the software, ensuring that it meets the requirements and specifications.	mainly focused on ensuring that the internal code of the software is correct and efficient.
Knowledge level	does not require any knowledge of the internal workings of the software, and can be performed by testers who are not familiar with programming languages.	White box testing requires knowledge of programming languages, software architecture and design patterns.
Testing methods	uses methods like equivalence partitioning, boundary value analysis, and error guessing to create test cases.	uses methods like control flow testing, data flow testing and statement coverage.
Scope	generally used for testing the software at the functional level.	used for testing the software at the unit level, integration level and system level.



Q&A's ?

Thank you !