**Black Box Testing**

**Black Box Testing** is a software testing method in which the functionalities of software applications are tested without having knowledge of internal code structure, implementation details and internal paths. Black Box Testing mainly focuses on input and output of software applications and it is entirely based on software requirements and specifications. It is also known as Behavioral Testing.

## Black Box Testing Techniques

Following are the prominent[Test Strategy](https://www.guru99.com/how-to-create-test-strategy-document.html)amongst the many used in Black box Testing

* **Equivalence Class Testing:**

 It is used to minimize the number of possible test cases to an optimum level while maintains reasonable test coverage.

* **Boundary Value Testing:**

Boundary value testing is focused on the values at boundaries. This technique determines whether a certain range of values are acceptable by the system or not. It is very useful in reducing the number of test cases. It is most suitable for the systems where an input is within certain ranges.

* **Decision Table Testing**:

A decision table puts causes and their effects in a matrix. There is a unique combination in each column.

## Types of Black Box Testing

There are many types of Black Box Testing but the following are the prominent ones,

* **Functional testing**

This black box testing type is related to the functional requirements of a system; it is done by software testers.

* **Non-functional testing**

This type of black box testing is not related to testing of specific functionality, but non-functional requirements such as performance, scalability, usability.

* **Regression testing**

[Regression Testing](https://www.guru99.com/regression-testing.html) is done after code fixes, upgrades or any other system maintenance to check the new code has not affected the existing code.

**Tools used for Black Box Testing:**

Tools used for Black box testing largely depends on the type of black box testing you are doing.

* For Functional/ Regression Tests you can use – [QTP](https://www.guru99.com/quick-test-professional-qtp-tutorial.html), [Selenium](https://www.guru99.com/selenium-tutorial.html)
* For Non-Functional Tests, you can use – [LoadRunner](https://www.guru99.com/loadrunner-v12-tutorials.html" \t "_blank), [Jmeter](https://www.guru99.com/jmeter-tutorials.html" \t "_blank)
* Appium
* Microsoft Coded UI
* Applitools

**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 in finding the ambiguity and contradictions in the functional specifications.

**Disadvantages of Black Box Testing:**

* 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.