

What is Black Box Testing?

Firstly we will learn what is **Black Box Testing**? Here we will discuss about how black box testing is performed, different BBT Techniques used in testing.

Black Box Testing Method:

Black box testing is the [Software testing method](#) which is used to test the software without knowing the internal structure of code or program.

Most likely this testing method is what most of tester actually perform and used the majority in the practical life.

Basically software under test is called as "Black-Box", we are treating this as black box & without checking internal structure of software we test the software. All testing is done as customer's point of view and tester is only aware of what the software is supposed to do but how these requests are processed by software is not aware. While testing tester knows about the input and expected outputs of the software and they do not know how the software or application actually processes the input requests & gives the outputs. Tester only passes valid as well as invalid inputs & determines the correct expected outputs. All the test cases to test using such method are calculated based on requirements & specifications document.

The main purpose of the Black Box is to check whether the software is working as per expected in requirement document & whether it is meeting the user expectations or not.

There are different types of testing used in industry. Each testing type is having its own advantages & disadvantages. So fewer bugs cannot be found using the black box testing or white box testing.

Types of Black Box Testing Techniques: Following black box testing techniques are used for testing the software application.

- **Boundary Value Analysis (BVA)**
- **Equivalence Class Partitioning**
- **Decision Table based testing**
- **Cause-Effect Graphing Technique**
- **Error Guessing**

1) Boundary Value Analysis (BVA):

Boundary Value Analysis is the most commonly used test case design method for [black box testing](#). As all we know the most of errors occur at boundary of the input values. This is one of the techniques used to find the error in the boundaries of input values rather than the center of the input value range.

Boundary Value Analysis is the next step of the Equivalence class in which all test cases are designed at the boundary of the Equivalence class.

Let us take an example to explain this:

Suppose we have software application which accepts the input value text box ranging from 1 to 1000, in this case we have invalid and valid inputs:

Invalid Input	Valid Input	Invalid Input
0 – less	1 – 1000	1001 – above

Here are the Test cases for input box accepting numbers using Boundary value analysis:

Min value – 1	0
Min Value	1
Min value + 1	2
Normal Value	1 – 1000
Max value – 1	999
Max value	1000
Max value +1	1001

This is testing techniques is not applicable only if input value range is not fixed i.e. the boundary of input is not fixed.

2) Equivalence Class Partitioning

The equivalence class partition is the black box test case design technique used for writing test cases. This approach is use to reduce huge set of possible inputs to small but equally effective inputs. This is done by dividing inputs into the classes and gets one value from each class. Such method is used when exhaustive testing is most wanted & to avoid the redundancy of inputs. In the equivalence partitioning input are divided based on the input values:

- If input value is Range, then we one valid equivalence class & two invalid equivalence classes.
- If input value is specific set, then we one valid equivalence class & one invalid equivalence classes.

- If input value is number, then we one valid equivalence class & two invalid equivalence classes.
- If input value is Boolean, then we one valid equivalence class & one invalid equivalence classes.

Source:

<http://www.softwaretestingclass.com/what-is-black-box-testing/>