**BLACK BOX TESTING**

 Black box testing is used to test the system against external factors responsible for software failures.

**IT’S TECHNIQUES ARE…**

There are various test case design techniques applied for black-box testing:

1. Boundary Value Analysis
2. Equivalence partitioning
3. State Transition Testing
4. Decision Table Testing
5. Graph-Based Testing
6. Error Guessing Technique
7. Comparision testing.

**BOUNDARY VALUE ANALYSIS:**

It is the widely used black-box testing, which is also the basis for equivalence testing.

Boundary value analysis tests the software with test cases with extreme values of test data.

BVA is used to identify the flaws or errors that arise due to the limits of input data.

**EQUIVALENCE PARTITIONING:**

This test case designing techniques checks the input and output by dividing the input into equivalent classes.

The data must be tested at least once to ensure maximum test coverage of data.

It is the exhaustive form of testing, which also reduces the redundancy of inputs.

**STATE TRANSITION TESTING:**

This testing technique uses the inputs, outputs, and the state of the system during the testing phase.

It checks the software against the sequence of transitions or events among the test data.

Based on the type of software that is tested, it checks for the behavioral changes of a system in a particular state or another state while maintaining the same inputs.

**DECISION TABLE TESTING:**

This approach creates test cases based on various possibilities. It considers multiple test cases in a decision table format where each condition is checked and fulfilled, to pass the test and provide accurate output.

It is preferred in case of various input combinations and multiple possibilities.

**For example**, A food delivery application will check various payment modes as input to place the order — decision making based on the table.

**Case1**: If the end-user has a card, then the system will not check for cash or coupon and will take action to place the order.

**Case2:** If the end-user has a coupon will not be checked for a card or cash and action will be taken.

**Case3**: if the end-user has cash, the action will be taken.

**Case4**: If the end-user doesn’t have anything, then action will not be taken.

**GRAPH-BASED TESTING:**

It is similar to a decision-based test case design approach where the relationship between links and input cases are considered.

**ERROR GUESSING TECHNIQUE:**

This method of designing test cases is about guessing the output and input to fix any errors that might be present in the system. It depends on the skills and judgment of the tester.