

Test Case Design Techniques:

- Test case design techniques help you to design better test cases.
- There are following test case design techniques:
 1. Boundary Value Analysis
 2. Equivalence Class Partitioning
 3. Decision table based testing
 4. State Transmission
 5. Error Guessing

Boundary Value Analysis:

- Boundary Value Analysis (BVA) is a [Black-Box testing technique](#) used to check the errors at the boundaries of an input domain.
- More application **errors occur at the boundaries** of the input domain. 'Boundary Value Analysis' Testing technique is used to identify errors at boundaries rather than finding those that exist in the center of the input domain.
- Formula: {Min,Max,Min-1,Min+1,Max-1,Max+1}

Example:

Age field accept 1 to 18 value

Min:1(Valid)

Max:18(Valid)

Min-1:0(Invalid)

Min+1:2(Valid)

Max+1:19(Invalid)

Max-1:17(Valid)

Equivalence Class Partitioning:

- Equivalence Partitioning also called as equivalence class partitioning.
- It is abbreviated as ECP.

- It is a software testing technique that divides the input test data of the application under test into each partition at least once of equivalent data from which test cases can be derived.
- An advantage of this approach is it reduces the time required for performing testing of a software due to less number of test cases.

Example:

Age field accept 1 to 18 value

Invalid:Less than 1

Valid: 1 to 18

Invalid:Greater than 18

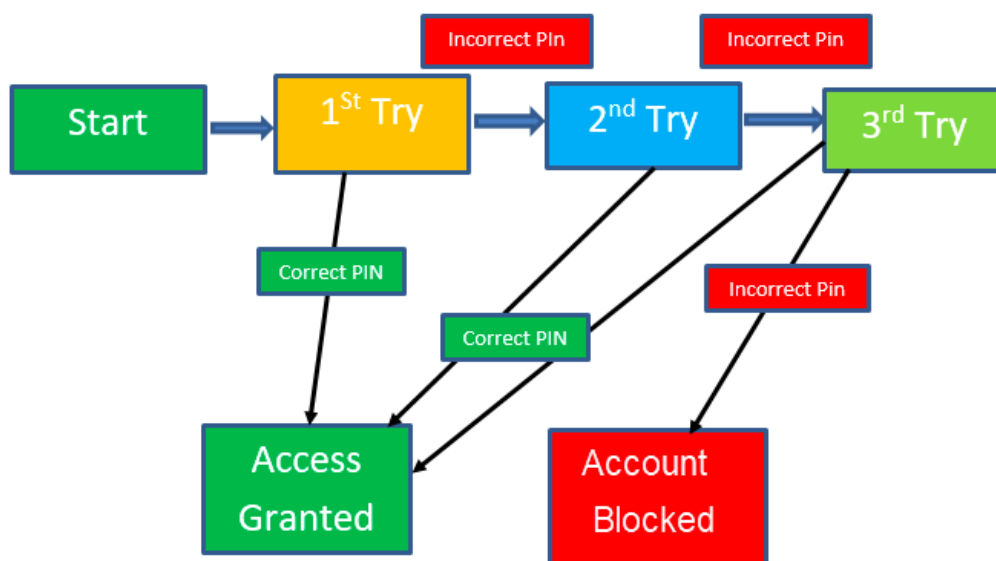
3.Decision table based testing:

- This is also known as the cause effect table.
- Using decision table testing derives the test cases from the logical type of requirement.
- This software testing technique is used for functions which respond to a combination of inputs or events
- For every function, you need to create a table and list down all types of combinations of inputs and its respective outputs. This helps to identify a condition that is overlooked by the tester.
- Example of login page:

	Case 1	case 2	Case 3	CASE 4
Email/Phone no	T	T	F	F
Password	T	F	T	F
Output	T	F	F	F

4.State Transmission:

- Deriving the test cases for the application functionalities which go through several states.
- Using state transition testing, we pick test cases from an application where we need to test different system transitions.
- We can apply this when an application gives a different output for the same input depending on what happened in the earlier state.
- Example of Netbanking Login and ATM machine:



5.Error Guessing:

1. Tester will guess the error using previous knowledge
2. It is experience based testing technique:
3. Find some common mistakes:
 - Divide by 0
 - Entering blank space in text field
 - Invalid Parameter
 - Uploading file exceeding maximum limit