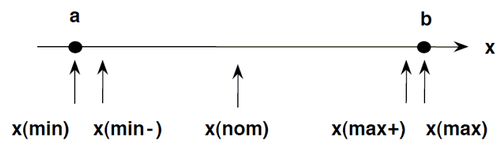
How I Design Test Cases with these 5 Black Box Testing Techniques?

Importance Of Test Design Phase

- It is imperative that the test cases are well-designed,
- They should provide 100% functional coverage so that defects are not leaked to higher environments.
- use the test case design techniques to create and review test cases
- Don't just write test cases, design them for 100% coverage using proven techniques.

1 Boundary Value Analysis (BVA)

- It includes maximum, minimum, inside or outside boundaries, and error values
- Assuming developers will make mistakes at the boundaries conditions
- A text field accepts input between 1 to 10
- TC — 0,1,2 and 9,10,11



Example

- Assume — Its working principle is that if a system works for these particular boundary values then it will work for all values

2 Equivalence Class Partitioning

- Partitions the input domain into a number of classes or partitions.
- Assume — software will behave in the same way for test data within the same classes
- Example
  - A text field accepts input between 1 to 10
  - three equivalence classes — infinity to 0 (invalid), 1 to 10 (valid), 11 to infinity(invalid)
  - TC — -1, 6, 17

3 Decision Table Based Testing

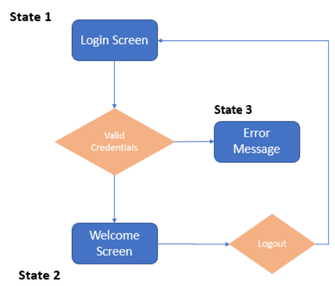
- A decision table, also known as the cause-effect table
- a tabular view of the inputs and expected outcomes to test how the system behaves for different input combinations
- Example - To build software that ensures only valid people should get the covid-19 vaccine.
  - Rule — Only people with age > 60 years or anyone above 45 years with either diabetics or hypertension history should be allowed vaccination'.
  - TC

	Age>=60	Age>=45	Diabeties	Hypertension	Expected Outcome
1	Y	-	-	-	Allowed
2	N	Y	Y	Y	Allowed
3	N	Y	Y	N	Allowed
4	N	Y	N	Y	Allowed
5	N	Y	N	N	Not Allowed
6	N	N	-	-	Not Allowed

TC

4 State Transition Testing

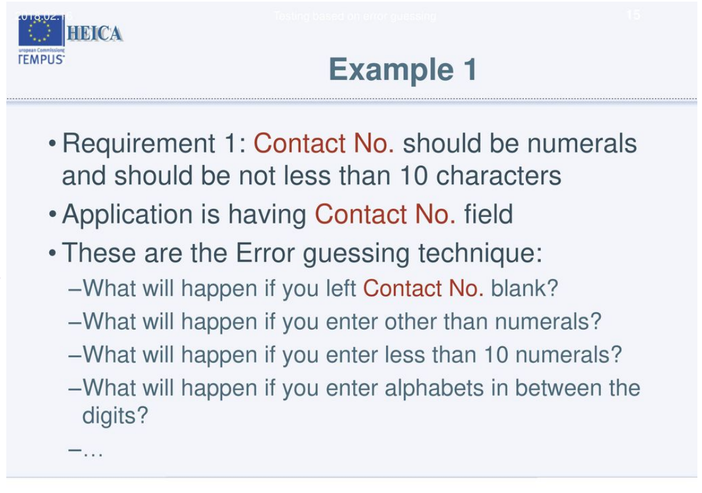
- Assume
  - the software is considered to have a finite number of states.
  - transition from one state or another of Application Under Test (AUT) happens in the responses to the action of the users.
- TC



TC of State Change in Login

5 Error Guessing Testing Technique

- depends majorly on the level of experience and knowledge
- Example
  - Divide by Zero
  - File not found
- knowledge of edge cases,
- tester can use past experience to design the test cases using this technique



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