Specification Based Testing - Part 1

Equivalence Partitioning



Objective



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Apply equivalence partitioning testing technique

Equivalence Partitioning

Technique for dividing input domain of a program/function into a finite number of equivalence partitions

Both valid and invalid partitions are considered

Select one or more inputs from each equivalence partition

Functional coverage is demonstrated by mapping equivalence partitions to test cases

Equivalence partitioning is applicable for testing functions whose inputs are independent of each other

Equivalence Partitioning Steps

- 1. For each input, identify a set of equivalence partitions and label them
- 2. Write test cases covering as many of uncovered valid equivalence partitions as possible
- 3. For each invalid equivalence partition write a test case that covers one of the uncovered equivalence partitions

Equivalence Partitioning Example

Testing a procedure called:

 Validate_New_Password which accepts a password from a user and validates that the new password conforms to the following rules:

- 1. A password must be between 6-10 characters
- 2. First and last character must be alphabetic, numeric or "?"
- 3. Remaining characters may be any character except control characters
- 4. Password must not be in a dictionary

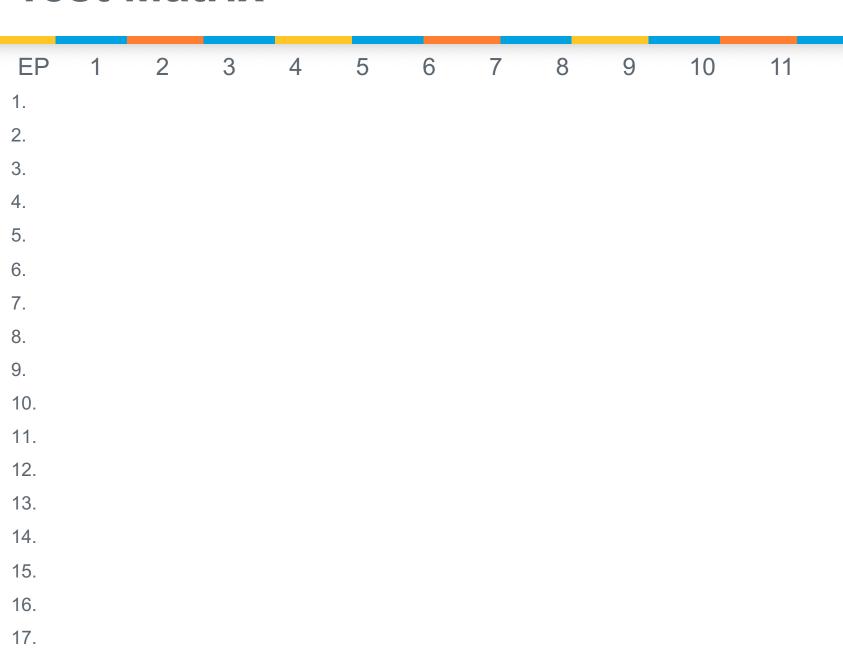
Equivalence Partitions

Length	First ch.	Last ch.	Remaining	Status of Password
(1) 6-10	(2) alpha	(5) alpha	(8) normal	(17) In dict
(10) <6	(3) numeric	(6) numeric	(16) control	(9) not in dict
(11) > 10	(4) ?	(7) ?		
	(12) control	(14) control		
	(13) other	(15) other		

Tests

- 3.
- 4.5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.

Test Matrix



Summary