**Black-Box Testing Techniques**

1. **Equivalence Class Partitioning**

**Equivalence Partitioning** or Equivalence Class Partitioning is type of black box testing technique which can be applied to all levels of [software testing](https://www.guru99.com/software-testing.html) like unit, integration, system, etc. In this technique, input data units are divided into equivalent partitions that can be used to derive test cases which reduces time required for testing because of small number of test cases.

**Example:**

**Assume that the application accepts an integer in the range 100 to 999.**

* Valid Equivalence Class partition: 100 to 999 inclusive.
* Non-valid Equivalence Class partitions: less than 100
* more than 999
* decimal numbers and alphabets/non-numeric characters.

**Identification of Equivalence Classes**

Let’s discuss some points or best practices regarding the identification of Equivalence classes-

* Cover all test data type for positive and negative test scenarios. We have to create test data classes in such a way that **all set of test scenarios should get covered** but at the same time, there **should not be any kind of redundancy**.
* If there is a possibility that the test data in a particular class can be treated differently then it is better to **split that equivalence class**

## Advantages of Equivalence Classes Testing

* With the help of equivalence class testing, the number of test cases gets greatly reduced maintaining the same test coverage.
* This testing technique helps in delivering a quality product within a minimal time period.
* It is perfectly suitable for software projects with time and resource constraints.

## Disadvantages of Equivalence Classes Testing

* The whole success of equivalence class testing relies on the identification of equivalence classes. The identification of these classes relies on the ability of the testers who creates these classes and the test cases based on them.
* In the case of complex applications, it is very difficult to identify all set of equivalence classes and requires a great deal of expertise from the tester’s side.
* Incorrectly identified equivalence classes can lead to lesser test coverage and the possibility of defect leakage.

**Note: Read section 9.4 of chapter 9 from book**