# CHAPTER SIX

# TESTING

## 6.1: Testing in Software Engineering

Testing is an activity that is used to discover errors and correct them, so that we are able to create a defect-free product for our customer or user. Testing is an important phase in the software development life cycle. The objective of testing is to evaluate if we have created the system correctly. During the earlier stages, the focus was to check what is being built but in testing when we have the end product ready, our focus shifts to validate whether the product that has been built has been built correctly or not. Hence, the focus shifts from building the product right to building the right product. [1]

There are two basic types of software testing, which are black box testing and white box testing. General testing process for large system development starts with the testing of individual program units such as functions, classes or objects. These are then integrated into sub-system and systems, and the interactions of these units were tested. Finally after delivery of the system, the customer may carry out a series of acceptance tests to check that the system performs as specified. [2]

Whereas, for smaller system or for system that are developed through scripting or reuse, there are often fewer distinct stages in the process.

The two fundamental testing activities are component testing, testing the parts of the system – and system testing, testing the system as a whole. [2]

## 6.2: Goals and Types of Testing

Basically, there are two distinct goals of the software testing process:

* To demonstrate to the developer and the customer that the software meets its requirements.
* To discover faults or defects in the software where the behavior of the software is incorrect, undesirable or does not conform to its specification.

The first goal, where you expect