Object Oriented Programming (IT 2nd)

**Department of Computing Science & Information Technology**

**Benazir Bhutto Shaheed University Lyari, Karachi**

**Fall Session 2020**

**Testing**

Testing is finding out how well something works. Testing is used at key checkpoints in the overall process to determine whether objectives are being met. For example, in software development, product objectives are sometimes tested by product user representatives. When the design is complete, coding follows and the finished code is then tested at the unit or module level by each programmer

**Types:**

**Black box testing** – Internal system design is not considered in this type of testing. Tests are based on requirements and functionality.

**White box testing** – This testing is based on knowledge of the internal logic of an application’s code. Also known as Glass box Testing. Internal software and code working should be known for this type of testing. Tests are based on coverage of code statements, branches, paths, conditions.

**Unit testing** – Testing of individual software components or modules. Typically done by the programmer and not by testers, as it requires detailed knowledge of the internal program design and code. may require developing test driver modules or test harnesses.

**Incremental integration testing** – Bottom up approach for testing i.e. continuous testing of an application as new functionality is added; Application functionality and modules should be independent enough to test separately. done by programmers or by testers.

**Integration testing** – Testing of integrated modules to verify combined functionality after integration. Modules are typically code modules, individual applications, client and server applications on a network, etc. This type of testing is especially relevant to client/server and distributed systems.

**Functional testing** – This type of testing ignores the internal parts and focus on the output is as per requirement or not. Black-box type testing geared to functional requirements of an application.

**System testing** – Entire system is tested as per the requirements. Black-box type testing that is based on overall requirements specifications, covers all combined parts of a system.

**End-to-end testing** – Similar to system testing, involves testing of a complete application environment in a situation that mimics real-world use, such as interacting with a database, using network communications, or interacting with other hardware, applications, or systems if appropriate.

**Acceptance testing** -Normally this type of testing is done to verify if system meets the customer specified requirements. User or customers do this testing to determine whether to accept application.

**Load testing** – It’s a performance testing to check system behavior under load. Testing an application under heavy loads, such as testing of a web site under a range of loads to determine at what point the system’s response time degrades or fails.