**BLACK BOX TESTING:**

* Black-box testing is a method of software testing that examines the functionality of an application based on the specification.
* Also known as **specification-based** testing.
* It only focused on **input and output** only. Checking whether the input & output from client is coming as per requirement or not.
* It is used to **application validate**.

**WHITE BOX TESTING:**

* White box testing is testing technique, that examines the **program structure** and derives test data from the program logic.
* The term “**white box**” was used because of the “**see-through box**” concept.
* It focuses on the **internal code** of the system.
* Here basically cover all **if and else conditions** to check if the code gets executed properly for all the various user inputs provided.

**REGRESSION TESTING:**

* Regression testing is done to verify **modified code does not affect the existing functionality** of the application.
* In regression testing only **selected** or **all the test cases** are implemented to **find bugs**.
* It increases our chances of **detecting bugs** caused by changes to a software and application either enhancements or defect fixes.
* Basically, here we ensure that **old code** still works, once **new code** changes are done.

**SMOKE TESTING:**

* In this testing we check the **new version of the software**, if it is **performing well** enough to accept it for a **major testing effort**.
* It is performed to check the **basic functionality of the build**.
* Smoke test should test the **critical functionalities** of the system whenever there is a **new build.**

**ALPHA TESTING:**

* It is performed by **highly skilled tester at onsite**.
* This is **in-house testing** in which development team is **not involved**.
* Application is tested before releasing in **beta version**.
* The focus of this testing is to simulate real users by using **black box** and **white box techniques.**
* Alpha testing should be competitive enough that it should not left any scope for **bug identification in Beta Testing.**

**BETA TESTING:**

* Beta testing is done by the **targeted users (real world)** to check the software, whether **it’s working fine or not.**
* Here testing process ensures that the product is **reliable, useable, and bug-free** before it’s release for production.
* It is often known as **User Acceptance Testing**.
* It is a crucial stage in software development, which brings in **increased quality of final product.**

**SYSTEM TESTING:**

* Here we test the **full system.**
* Here we ensure that the system is performed according to **specified requirement**.
* In System testing, the functionalities of the system are tested from an **end-to-end** **perspective**. (Start to End)
* This testing should be done before releasing the **application or the product to market or to client.**

**STRESS TESTING:**

* It is a **non-functional testing** technique that is performed as part **of performance testing**.
* It is done to evaluate the **application’s behavior** .
* Normally these are related to **synchronization issues, memory leaks or race condition** etc.

(More than one user access a shared variable at same time)

**PERFORMANCE TESTING:**

* Performance testing, **a non-functional testing** technique performed to determine the system parameters in terms **of responsiveness** and **stability** under various workload.
* Basically, testing measures the quality attributes of the System, such as scalability, reliability and resource usage.