**Verification and Validation differences:**

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| **Verification** | **Validation** |
| It includes checking documents ,design, codes  And programs. | It includes testing and validating the actual product. |
| Verification is the static testing. | Validation is dynamic testing |
| It does not include the execution of the code. | It includes execution of the code. |
| It checks whether the software conforms to specifications or not. | It checks whether the software meets the requirements and expectations of a customer or not. |
| It can find the bugs in the early stage of the development. | It can only find the bugs that could not be found by the verification product. |
| The goal of verification is application and software architecture and specification. | The goal of validation is an actual product. |
| It comes before validation. | It comes after verification. |
| Quality assurance team does verification. | Validation is executed on software code with the help of testing team. |
| It consists of checking of documents/files and is performed by human. | It consists of execution of program and is performed by computer. |

| **S. No.** | **Black Box Testing** | **White Box Testing** |
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| **1.** | **It is a way of software testing in which the internal structure or the program or the code is hidden and nothing is known about it.** | **It is a way of testing the software in which the tester has knowledge about the internal structure or the code or the program of the software.** |
| **2.** | **Implementation of code is not needed for black box testing.** | **Code implementation is necessary for white box testing.** |
| **3.** | **It is mostly done by software testers.** | **It is mostly done by software developers.** |
| **4.** | **No knowledge of implementation is needed.** | **Knowledge of implementation is required.** |
| **5.** | **It can be referred to as outer or external software testing.** | **It is the inner or the internal software testing.** |
| **6.** | **It is a functional test of the software.** | **It is a structural test of the software.** |
| **7.** | **This testing can be initiated based on the requirement specifications document.** | **This type of testing of software is started after a detail design document.** |
| **8.** | **No knowledge of programming is required.** | **It is mandatory to have knowledge of programming.** |
| **9.** | **It is the behavior testing of the software.** | **It is the logic testing of the software.** |
| **10.** | **It is applicable to the higher levels of testing of software.** | **It is generally applicable to the lower levels of software testing.** |
| **11.** | **It is also called closed testing.** | **It is also called as clear box testing.** |
| **12.** | **It is least time consuming.** | **It is most time consuming.** |
| **13.** | **It is not suitable or preferred for algorithm testing.** | **It is suitable for algorithm testing.** |
| **14.** | **Can be done by trial and error ways and methods.** | **Data domains along with inner or internal boundaries can be better tested.** |
| **15.** | **Example: Search something on google by using keywords** | **Example: By input to check and verify loops** |
| **16.** | **Types of Black Box Testing:**   * **Functional Testing** * **Non-functional testing** * **Regression Testing** | **Types of White Box Testing:**   * **Path Testing** * **Loop Testing** * **Condition testing** |
| **17.** | **It is less exhaustive as compared to white box testing.** | **It is comparatively more exhaustive than black box testing.** |
| **18** | **Black-box test design techniques-**   * **Decision table testing** * **All-pairs testing** * **Equivalence partitioning** * **Error guessing** | **White-box test design techniques-**   * **Control flow testing** * **Data flow testing** * **Branch testing** |