Difference between Black box and White box Testing

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| **Black Box Testing** | **White Box Testing** |
| Checking the external behavior software’s. | Checking internal code of software’s. |
| It is also known as data-driven testing, [functional testing](https://www.practitest.com/qa-learningcenter/resources/what-is-functional-testing/), and closed box testing. | It is also known as clear box testing, code-based testing, structural testing, and transparent testing. |
| It is carried out by testers. | It is carried out by software developers. |
| Techniques:  Equivalence Partitioning  Boundary Value Analysis  Decision Table Testing  State Transition Testing (Gross and Effect).  Error Guessing(Done by experienced Tester)  Graph-Based Testing. | Techniques:  Control flow testing  Data flow testing  Branch Coverage  Statement Coverage  Decision Coverage |
| It is done at higher levels of testing that are system testing and acceptance testing. | It is done at lower levels of testing that are unit testing and integration testing. |
| In black-box testing, there is no implementation knowledge is required. | In white-box testing, there is a requirement of implementation knowledge. |
| Types  **Functional testing.**  **Non-Functional testing.**  **Regression testing**. | Types  **Path testing.**  **Loop testing.**  **Condition testing**. |

Difference between Verification and Validation

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| **Verification** | **Validation** |
| Are we building Product right? | Are we building right product? |
| It is development phase | It is testing Phase. |
| The verifying process includes checking documents, design, code, and program | It is a dynamic mechanism of testing and validating the actual product |
| Verification is also known as **static testing**.(Without executing a code we are checking) | Validation is also known as **dynamic testing**.(We execute a code) |
| Verification includes different methods like Inspections, Reviews, and Walkthroughs. | Validation includes testing like [functional testing](https://www.javatpoint.com/functional-testing), system testing, [integration](https://www.javatpoint.com/integration-testing), and User acceptance testing. |
| Verification testing is executed by the Quality assurance team to make sure that the product is developed according to customers' requirements | Validation testing is executed by the testing team to test the application. |
| Verification comes first | After verification validation comes |
| **Quality assurance**comes under verification testing | **Quality control**comes under validation testing. |