Black Box Testing vs. White Box Testing vs. Grey Box Testing

Index	Black Box Testing	White Box Testing	Grey Box Testing
1	Knowledge of internal working structure (Code) is not required for this type of testing. Only GUI (Graphical User Interface) is required for test cases.	Knowledge of internal working structure (Coding of software) is necessarily required for this type of testing.	Partially Knowledge of the internal working structure is required.
2	Black Box Testing is also known as functional testing, data-driven testing, and closed box testing.	White Box Testing is also known as structural testing, clear box testing, code-based testing, and transparent testing.	Grey Box Testing is also known as translucent testing as the tester has limited knowledge of coding.
3	The approach towards testing includes trial techniques and error guessing method because tester does not need knowledge of internal coding of the software.	White Box Testing is proceeded by verifying the system boundaries and data domains inherent in the software as there is no lack of internal coding knowledge.	If the tester has knowledge of coding, then it is proceeded by validating data domains and internal system boundaries of the software.

4	The testing space of tables for inputs (inputs to be used for creating test cases) is pretty huge and largest among all testing spaces.	The testing space of tables for inputs (inputs to be used for creating test cases) is less as compared to Black Box testing.	The testing space of tables for inputs (inputs to be used for creating test cases) is smaller than Black Box and White Box testing.
5	It is very difficult to discover hidden errors of the software because errors can be due to internal working which is unknown for Black Box testing.	It is simple to discover hidden errors because it can be due to internal working which is deeply explored in White Box testing.	Difficult to discover the hidden error. Might be found in user level testing.
6	It is not considered for algorithm testing.	It is well suitable and recommended for algorithm testing.	It is not considered for algorithm testing.
7	Time consumption in Black Box testing depends upon the availability of the functional specifications.	White Box testing takes a long time to design test cases due to lengthy code.	Test cases designing can be done in a short time period.
8	Tester, developer and the end user can be the part of testing.	Only tester and developer can be a part of testing; the end user can not involve.	Tester, developer and the end user can be the part of testing.

9	It is the least time-consuming process among all the testing processes.	The entire testing process is the most time consuming among all the testing processes.	less time consuming than White Box testing.
10	Resilience and security against viral attacks are covered under Black Box testing.	Resilience and security against viral attacks are not covered under White Box testing.	Resilience and security against viral attacks are not covered under Grey Box testing.
11	The base of this testing is external expectations internal behavior is unknown.	The base of this testing is coding which is responsible for internal working.	Testing based on high-level database diagrams and dataflow diagrams.
12	It is less exhaustive than White Box and Grey Box testing methods.	It is most exhaustive between Black Box and Grey Box testing methods.	Partly exhaustive; depends upon the type of test cases are coding based or GUI based.

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