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SPM Revision Test-3

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Q1.) Compare white box testing & black box testing.

Ans

- In the field of software testing there are mainly two types of testing.
- These are so common that they are intuitively used in the software.
- Here is a comparion between these two methods of testing:

White Box Testing	Black Box Testing
~ Also knowas : clear box, glassbox, open box or path driven testing.	~ Also known as : closed box, or behavioural testing.
~ Testing technique that derive its sources from the software it self - literal code	~ Testing technique that derives it sources from the behaviour or expected reaction of the software.
~ The tester is empowered with the knowledge of source code or program.	~ The source code is hidden from the tester, he/she cannot acess it.

~ Due to this knowledge the tester can choose the path through the software.

~ This testing will help to bring corner cases to light.

~ White box testing is costly as its requires programing know-how.

~ This testing eats up more time due to the manual inspection of code. (unless you're using modern bots like codacy)

~ White box testing can help in refactoring the source code to optimize.

~ The source code is covred using - path, branch & statement coverage

branch ≡ } ← statements

path ↑

~ The domain of testing is very limited due to hidden code.

~ This testing will be more helpful to identify abnormalities.

~ Since liberal programing knowledge is less ~~it is~~ required it is ~~less~~ relatively cheaper.

~ Black box testing gets completed earlier as it mostly deals with the external interation of the software.

~ Black box test will reamain only as pointers to these improvents that are to be brought about.

~ Since the sourcecode is not directly avaiable it tries to split applications based on its function and domain.

~ The main type of white box testing is:

Control Structure Testing

- Branch Testing
- Condition Testing
- Data flow Testing
- Loop Testing.

~ eg:-

~ I've gone through the OS repository of the elementy OS organization on git hub.

~ In that repository there's a python file which take system arguments when run.

~ Initially it was done in 6-steps but it could have been don more easily using a loop.

~ So the refactoring of code is a result of white box testing.

~ Black box testing has different methods

- Graphical Method
- Equalance Partitioning
- Boundary value Analysis
- Orthogonal Array Testing

eg:-

- There's a Todo application called Planner written in Vala langage for elementry OS.

~ It is avaiable on Github.

~ Since I was not verry familary with Vala I could not manually parse through the source code.

~ But I found some abnormalities like the togglebutton not working proply, or "&" charater gets dissolved.

~ Now this is a type of black box testing because tester is more focused on the behaviour than code.