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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 comparison between these <sup>two</sup> methods of testing:

### White Box Testing

- ~ Also known as: clear box, glass box, open box or path driven testing.
- ~ Testing technique that derives its sources from the software it self - literal code
- ~ The tester is empowered with the knowledge of source code or program.

### Black Box Testing

- ~ Also known as: closed box, or behaviourally testing.
- ~ Testing technique that derives its sources from the behaviour or expected reaction of the software.
- ~ The source code is hidden from the tester, he/she cannot access it.

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

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

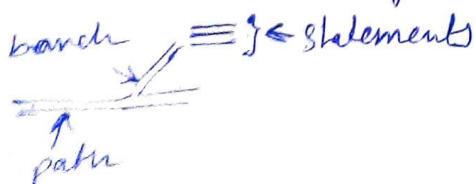
~ White box testing is costly as it requires programming know-how.

~ This testing takes 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 covered using - path, branch & statement coverage



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

~ This testing will be more helpful to identify abnormalities.

~ Since literal programming knowledge is less ~~it is~~ required it is ~~less~~ relatively cheaper.

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

~ Black box testing will remain only as pointers to these improvements that are to be brought about.

~ Since the source code is not directly available 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 elementary OS organization on github.
- ~ In that repository ~~there was~~ <sup>there's</sup> a python file which takes system arguments when run.
- ~ Initially it was done in 6-steps but it could have been done 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
- Equivalence Partitioning
- Boundary value Analysis
- Orthogonal Array Testing

eg:-

- ~ There's a ~~an~~ Todo application called Planner written in Vala language for elementary OS.
- ~ It's available on Github.
- ~ Since I was not very familiar with Vala ~~I~~ could not manually parse through the source code.
- ~ But I found some abnormalities like the toggle button not working properly, or "&" character gets dissolved.
- ~ Now this is a type of black box testing because ~~tester~~ <sup>tester</sup> is more focused on the behaviour than code.