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**Lab1 Testing**

Lab 1

1- True or False:

Why is Testing necessary?

1- because software is likely to have faults

[True]

2- To learn about the reliability of the software

[True]

3- To fill the time between the delivery of the software and the release date

[False]

4- To prove that the software has no faults

[False]

5- Because testing is included in the project plan

[True]

6- Because failures can be very expensive

[True]

7- To avoid being sued by customers

[True]

8- To stay in business

[False]

2- compare between :

1- functional and non-functional testing

-> Functional Testing:

- Involves verifying that the system functions as expected.

- Example:- Testing user login functionality.

-> Non-functional Testing:

- Focuses on non-functional aspects like performance, usability, and security.

- Example:- Testing system response time.

2- black box, white box, and gray box

-> Black Box Testing:

- Testing the system without knowing its internal structure.

- Example: User interface testing.

-> White Box Testing:

- Involves testing the internal structure and code.

- Example:- Unit testing.

-> Gray Box Testing:

- A mix of black box and white box testing, where the tester has some knowledge of the internal structure.

- Example: Security testing with some knowledge of internal architecture.

Source :-

- https://www.geeksforgeeks.org/difference-between-black-box-vs-white-vs-grey-box-testing/

3- What is the SDLC?

-> SDLC (Software Development Life Cycle):

- A process that includes the steps of developing software from planning to maintenance.

- Includes phases: Analysis, Design, Development(Implementation), Testing, and Evolution.

4- What are the Testing levels?

-> Unit Testing:

- Testing individual components of the system.

-> Integration Testing:

- Testing integrated modules of the system.

-> System Testing:

- Testing the entire system as a whole.

-> Acceptance Testing:

- Testing by the end-user to ensure the system meets the requirements.

5- What are the Testing Types?

-> Manual Testing

-> Automation Testing

6- [Bouns] search for the difference between TDD and DDD and BDD :-

-> TDD (Test-Driven Development):-

- A software development approach where tests are written before code.

-> DDD (Domain-Driven Design):-

- A software design approach focusing on the project's specific domain.

-> BDD (Behavior-Driven Development):-

- A software development approach focusing on the expected behavior of the system as defined by the user.

Source :-

- https://www.linkedin.com/pulse/tdd-vs-bdd-ddd-vitalii-serdiuk

7- Who does Testing?

-> Developers:

- Typically perform unit testing.

-> Project Lead/Manager

- Responsible for monitoring project development

-> Testers:

- Focus on functional and non-functional testing of the system.

-> Users:

- Perform acceptance testing to ensure the system meets their requirements.