

## General Assessment

Please answer the following question:

1. What is the goal of QA in the software development lifecycle, and why is it important?
2. What is the difference between functional testing and non-functional testing?
3. What is the importance of test documentation in QA?
4. What is the difference between manual testing and automated testing?
5. What is the significance of test prioritization in QA?

The Answers :

1. The goal of Quality Assurance (QA) in the software development lifecycle is to ensure that the developed software meets the desired quality standards and fulfills the requirements specified by the stakeholders. QA aims to identify and rectify defects or issues in the software early on, ensuring a higher level of reliability, usability, and customer satisfaction. It is important because:
  - QA helps in preventing defects or issues from reaching the end-users by identifying and addressing them during the development process.
  - It improves the overall quality of the software, leading to higher customer satisfaction and trust in the product.
  - QA helps in reducing the cost of fixing defects by identifying and resolving them early, rather than discovering them after the software is deployed.
  - It contributes to the overall efficiency and effectiveness of the development process by promoting best practices, standards, and quality control measures.
2. Functional testing and non-functional testing are two different types of software testing:
  - Functional testing focuses on verifying the functional requirements of the software. It involves testing the software's features, functionality, and behavior to ensure that it performs as expected. The goal is to ensure that the software meets the specified functional requirements and that users can interact with it correctly.
  - Non-functional testing, on the other hand, is concerned with evaluating the software's non-functional aspects, such as performance, scalability, security, usability, and reliability. It aims to assess the software's behavior under different conditions and to ensure that it meets the desired non-functional requirements.
3. Test documentation plays a crucial role in QA for several reasons:
  - It serves as a reference for understanding the testing process, including test objectives, test cases, test data, and expected results.
  - Documentation helps in maintaining a record of the tests performed, the issues found, and the steps taken to resolve them. This information can be useful for future reference, regression testing, and knowledge transfer.
  - Test documentation enables better collaboration and communication among team members, including developers, testers, and stakeholders. It provides clarity on the scope of testing, requirements, and test coverage.
  - It helps in ensuring consistency and repeatability of tests by providing clear instructions and guidelines for executing them.
  - Documentation also facilitates compliance with regulatory standards and industry best practices, as it provides evidence of the testing activities performed.

4. Manual testing and automated testing are two approaches to performing software testing:
  - Manual testing involves human testers executing test cases manually, step by step, without the use of any automation tools. Testers interact with the software as end-users would, manually verifying its behavior, functionality, and other aspects. Manual testing is flexible, allows for ad-hoc testing, and is effective in exploratory testing, where the tester explores the software to discover defects.
  - Automated testing involves the use of automation tools to execute test cases. Test scripts are created to automate the testing process, reducing the need for manual intervention. Automated testing is beneficial for repetitive and time-consuming tests, regression testing, and performance testing. It provides faster execution, higher accuracy, and the ability to test complex scenarios.
5. Test prioritization is essential in QA because it helps in optimizing the testing efforts and resources. Prioritizing tests involves determining the order in which tests should be executed based on their importance, risk, and criticality. The significance of test prioritization lies in the following aspects:
  - It ensures that high-risk areas of the software are thoroughly tested first, reducing the chances of critical defects escaping into production.
  - Prioritization allows for early defect detection and faster feedback, enabling the development team to address issues promptly