Software testing theory

Please answer the following questions. This document is designed as a questionnaire regarding Software testing theory, approaches, differences of approaches and various theoretical questions.

#### **Q: In your opinion what skills are needed for someone to become a software tester?**

Your answer: There are a lot of skills that can help, but most needed to become a software tester are: critical thinking, focus on details, good communication skills, understanding the testing process, business mapping, willingness to learn and of course technical skills.

#### **Q: What is manual software testing, and how does it differ from automated software testing?**

Your answer: Manual testing is the process where humans perform tests step by step. QA testers must be highly involved in everything from test case creation to test execution. The key difference is that automated tests are performed by another software.

#### **Q: What are the advantages and benefits of manual testing?**

Your answer: Easy for new testers to learn, programming knowledge is not required, recommendable for GUI testing, usability and exploratory testing. Useful for products with short life cycle.

#### **Q: What are the disadvantages of manual testing?**

Your answer: Running test cases manually is time consuming. Regression testing is hard to achieve. Not as reliable, the human element is involved, and there is more chance for error. It uses a large number of human resources. Load testing and performance testing are not possible in manual testing.

#### **Q: What are the advantages and disadvantages of automated testing?**

Your answer: Advantages: Time saver. Tests can be run anytime and anywhere. Fast execution of tests. Tests can be run on multiple browsers and multiple devices at the same time. Bugs can be detected at an early stage.

Disadvantages: Test automation is very expensive. Requires high skills to develop scripts. If the business requires frequent changes automation is not the best option.

#### **Q: Can automated testing replace manual testing?**

Your answer: In my opinion not yet. User interface testing, usability testing, UAT testing and security testing still need humans to perform tests manually.

#### **Q: What types of manual testing are there? Explain each with a sentence.**

Your answer: Smoke testing: It ensures that all critical functionalities are working correctly or not.

Exploratory testing: Instead of following a script for each test case, the tester is free to follow their initiative and curiosity.

Acceptance testing: this testing ensures that the end-user can achieve the goals set in the business requirements, which determines whether the software is acceptable for delivery or not.

GUI testing: is a software testing type that checks the Graphical User Interface of the Software, ensures the functionalities of the software application work as per specifications by checking screens and controls like menus, buttons, icons, etc.

#### **Q: What is black box testing? Give an example for Black Box testing and describe it in a few sentences.**

Your answer: Black Box testing is a process of inspecting the software functionality from the point of view of an ordinary user. Tester doesn’t have access to the code. There are three main types of black box testing: functional, non-functional and regression testing.

#### **Q: How would you approach a new project when you see it for the first time, and have no previous knowledge of how it works?**

Your answer: The first step will be to analyze the requirements to identify and determine what items must be tested. After gathering the requirements and identifying the scope of testing it will be good to put out the strategy document defining the testing approach to achieve the test objectives. This document will have the scope and objective of the testing, the approach, roles and responsibilities of individual test teams, tools identified for testing, reporting and tracking mechanisms.

#### **Q: What are the different types of Software testing? Explain the difference.**

Your answer: There are different types of software testing, I will mention two significant types here: functional and nonfunctional. Functional testing verifies each function/feature of the software whereas Non Functional testing verifies non-functional aspects like performance, usability, reliability. Functional testing can be done manually whereas Non Functional testing is hard to perform manually. Examples of functional testing types: unit, smoke, regression, user acceptance, integration testing. Examples of nonfunctional testing types: performance, load, stress, usability testing.

#### **Q: When should testing end? Elaborate.**

Your answer: When all of the issues are fixed, and there is no more functionality for development.

#### **Q: What kind of testing do you use in your current position?**

Your answer: In my current position, I’m using manual testing and automated testing. I’m writing and executing automation API tests using Postman and Newman. For writing and running manual tests I’m using X-ray. I'm writing different types of tests like smoke, regression and user acceptance tests.

#### **Q: When you see a project or a feature for the first time, during your testing you see something that doesn’t seem right. How do you go forward?**

Your answer: I will check the documentation and try to reproduce the problem once again, and if it still exists, I will open the bug and report it. In a case where there is no documentation, I will try to discuss it with someone from the team about it. If there are no available colleagues, my next move will be to present the problem on the standup.