**Testing Exercises:**

1.What is the primary goal of manual testing?

* 1. To find defects in software
  2. To automate the testing process
  3. To reduce the time required for testing
  4. To increase the efficiency of developers

1. Which of the following is NOT a phase of the manual testing process?
   1. Test Planning
   2. Test Execution
   3. Test Automation
   4. Test Closure

1. Which type of testing involves testing the software as a whole to ensure that all components work together?
   1. Unit Testing
   2. Integration Testing
   3. System Testing
   4. Acceptance Testing

1. Which testing technique involves testing a system's functionality without knowing its internal code structure?
   1. White-box testing
   2. Black-box testing
   3. Gray-box testing
   4. Glass-box testing

1. What is exploratory testing?
   1. Testing based on pre-defined test cases
   2. Testing without any specific test cases or plans
   3. Testing only the critical functionalities
   4. Testing performed by an external team

1. In which phase of the software development lifecycle is manual testing typically conducted?
   1. Requirement Analysis
   2. Design
   3. Implementation
   4. Testing

1. What is the purpose of regression testing?
   1. To validate if the software meets the specified requirements
   2. To ensure that new changes haven't adversely affected existing functionality
   3. To test the software in various operating environments
   4. To verify if the software is user-friendly

1. Which of the following is NOT a common type of manual testing?
   1. Functional Testing
   2. Performance Testing
   3. Security Testing
   4. User Acceptance Testing

1. What is the main advantage of manual testing over automated testing?
   1. Greater test coverage
   2. Faster execution of tests
   3. Human intuition and creativity
   4. Consistency in test execution

1. What is the purpose of smoke testing?
   1. To verify if the software is stable enough for further testing
   2. To test the core functionalities of the software
   3. To test the software in various browser environments
   4. To ensure that the software meets all specified requirements

1. What is the purpose of usability testing?
   1. To verify if the software performs efficiently under high load
   2. To ensure that the software is user-friendly and intuitive
   3. To test the software across different operating systems
   4. To check for security vulnerabilities in the software

1. Which testing technique involves executing the test cases in a random order to identify defects?
   1. Ad-hoc Testing
   2. Boundary Testing
   3. Equivalence Partitioning
   4. Sanity Testing

1. What is the main focus of acceptance testing?
   1. Validating if the software meets specified requirements
   2. Testing individual components or modules of the software
   3. Evaluating the overall performance of the software
   4. Ensuring that the software is compatible with different devices

1. Which of the following is NOT a commonly used manual testing technique?
   1. Boundary Value Analysis
   2. Equivalence Partitioning
   3. Fuzz Testing
   4. Code Coverage Analysis

1. What is the purpose of ad-hoc testing?
   1. To verify if the software performs well under normal conditions
   2. To execute pre-defined test cases systematically
   3. To test the software without any specific test cases or plans
   4. To test the software in different languages and locales

1. What is the main advantage of pairwise testing?
   1. It ensures that every possible combination of inputs is tested
   2. It reduces the number of test cases while providing good coverage
   3. It focuses solely on testing user interfaces
   4. It allows for automated test execution without human intervention

1. Which type of testing involves executing test cases in a controlled environment that simulates the production environment?
   1. Alpha Testing
   2. Beta Testing
   3. Regression Testing
   4. Smoke Testing

1. What is the primary purpose of sanity testing?
   1. To ensure that the software meets all specified requirements
   2. To verify if the software is stable enough for further, more comprehensive testing
   3. To test the software in a variety of real-world scenarios
   4. To evaluate the software's performance under varying load conditions

1. Which testing technique involves testing the software's response to unexpected inputs or conditions?
   1. Negative Testing
   2. Positive Testing
   3. Boundary Testing
   4. Equivalence Partitioning

1. What is the primary focus of compatibility testing?
   1. To verify if the software performs efficiently under high load
   2. To ensure that the software is compatible with different devices, browsers, and operating systems
   3. To test individual components or modules of the software
   4. To evaluate the software's security features

1. What is the primary goal of regression testing?
   1. To ensure that the software meets specified requirements
   2. To verify if the software is stable enough for release
   3. To ensure that new changes haven't introduced defects in existing functionality
   4. To test the software in various operating environments

1. Which testing technique involves testing the software's ability to recover from crashes or failures?
   1. Recovery Testing
   2. Performance Testing
   3. Compatibility Testing
   4. Installation Testing

1. What is the main focus of localization testing?
   1. To verify if the software performs efficiently under high load
   2. To ensure that the software is compatible with different devices
   3. To test the software's behavior in different locales and languages
   4. To evaluate the software's security features

1. Which of the following is NOT a category of software testing?
   1. White-box testing
   2. Black-box testing
   3. Gray-box testing
   4. Blue-box testing

1. What is the purpose of static testing?
   1. To verify the software's behavior under varying load conditions
   2. To test the software without executing the code
   3. To simulate real-world usage scenarios
   4. To evaluate the software's compatibility with different devices

1. What is the primary focus of boundary testing?
   1. To test the software's ability to handle unexpected inputs or conditions
   2. To test the software's response to extreme or boundary values
   3. To verify if the software meets specified requirements
   4. To ensure that the software is user-friendly and intuitive

1. What is the purpose of test case prioritization?
   1. To ensure that all test cases are executed in a specific order
   2. To identify which test cases should be executed first based on their importance
   3. To allocate resources for test case execution
   4. To generate additional test cases automatically

1. Which testing technique involves testing the software's ability to handle large volumes of data?
   1. Volume Testing
   2. Stress Testing
   3. Load Testing
   4. Scalability Testing

1. What is the main focus of smoke testing?
   1. To verify if the software is stable enough for further testing
   2. To test the core functionalities of the software
   3. To test the software's performance under varying load conditions
   4. To test the software's compatibility with different devices

1. What is the primary goal of acceptance testing?
   1. To verify if the software meets specified requirements
   2. To ensure that the software is user-friendly and intuitive
   3. To identify defects in the software
   4. To test the software's performance under varying load conditions
2. **Define Software Development Life Cycle (SDLC) and briefly explain its primary phases?**

A: In software industry for developing the project we will undergo through different phases

They are

* Requirement and analysis
* Design
* Implementation
* Testing
* Deployment
* Support

1. **Requirement and analysis phase:**

In this phase we gather the requirements and business needs of the client, customer and according the gathered requirements analysis according to the technical way and in financial way.

1. **Design:**

In this phase we document the requirements which are gathered in the above phase according to the client or customer requirements.

And up to this phase we perform static testing

1. **Implementation:**

In this phase coding part will de done by the developer according to the document.

From this phase we perform dynamic testing

1. **Testing:**

Here testing of the code will be done by the QA teams and if any bugs fund in will be send to the developer to fix the bugs

1. **Deployment:**

So here the software which is developed will be sent to the production environment and check all the client requirements are full filled or not and in this phase we perform UAT testing.

1. **Support:**

We should provide continuous support to the client and client or customer or end user will give the feedback about the product where the changes should take place and id any thing need to add according to the business requirements.

So this is about the SDLC and the primary phases in SDLC.

**32.What are the main objectives of the Requirements Gathering phase in SDLC?**

**A:** Requirements gathering phase is the first phase in SDLC and we can say this is the one of the most critical phase in the SDLC. And this is phase where we put foundation for the development of whole project.

The main objectives of requirements gathering phase is:

For development of the project first we should know about the client requirements according to the requirement and business needs of the client we can develop the project and also we can know about the functional and non-functional requirements according to that we prepare the document. We can estimate budget of the project timeline. And also we can analyse and validate the need and we can know the requirements of the stakeholders and prepare a clear documentation according to the requirements.

So this is about the main objectives of the requirements gathering phase.

**33.Explain the significance of the Design phase in the SDLC process.**

**A**: Design phase is the second phase in SDLC so in this phase documentation part will take place according to the requirements gathered in the above phase so according to the document which we have done development of the project will take place so documenting everything clearly should be done and in this phase we perform static testing is every thing is clear or not because development of the project will be done according to the documentation part only. And

In this phase developer will convert the high-level design to technical blueprint and testers will check whether it is testable or not. And security team will check everything is going by following the security or not so this is the one of the crucial phase where the whole designing will take place according to the requirements.so this is the significance of the design phase in SDLC.

**34.Discuss the importance of thorough Testing during the SDLC.**

**A:** It is the very import phase in the SDLC

First why we should know why we do testing:

We perform testing to find out the bugs and give the quality product to the end user whether to check whether the developed software is according to the client requirements or not.in software testing we have to two types of testing

1.static testing

2.dynamic testing

Again, in dynamic testing we have two parts:

1.white box testing

2.black box testing

In black box testing we have to types

1.system testing

2.UAT testing

In UAT testing we have two types:

1.alpha testing

2.beta testing

In white box testing we have two types:

1.unit testing

2.integration testing

Coming to levels of testing:

1. Unit testing
2. Integration testing
3. System testing
4. UAT testing

Coming to the importance of through testing in SDLC:

Finding bugs in the early stage will cost very less amount and by finding the bugs in later stage may cost heavy amount and also if we find the bugs before deployment phase we can provide early solution to the error if we find the error after deployment phase it is called as system failure and we cannot find the error early so by performing through testing in SDLC we can make necessary changes in the code according to the client or customer requirement and we can give the quality output to the client end user or customer.

**35.Differentiate between Waterfall and Agile methodologies in SDLC. Highlight the advantages and disadvantages of each.**

**Deference B/W waterfall model and agile model:**

**Water fall model:**

Water fall model is the old model and in this model implementation of the project will be in the level by level after completion of one level we go to the next level and if any error raises in the previous level it will continue in the next level also it is suitable for the small projects:

**Advantages:**

* It is suitable for the small size projects
* Requirements gathering will be done in the initial stages only

**Disadvantages:**

* We can’t do testing in the middle of the process
* And if any error raises in the middle of the process we can’t fix and it will continue to the next phase also
* Testing will be done at the end.

**Agile model:**

In Agile model we can perform testing in the middle of the project and we can add new requirements in the middle of the project also and we can involve all the stakeholders in the project throughout the project so we can give the quality output.

**Advantages:**

* We can give the quality output
* We can make necessary changes in the middle of the project
* Testing will be done through out the process

**Disadvantages:**

* We need experienced team
* Time taking

**36.What is the purpose of the Implementation phase in SDLC? How does it differ from the Deployment phase?**

**A**: Implementation phase is the third phase in the SDLC we can say implementation phase as development phase where the purpose of the implementation phase is to develop the code according to the design which we have made in this phase the actual development of the project will start and it differ from the implementation phase in deployment phase building of the code will be completed and ready of the production environment. And in implementation phase we develop the actual code and we do unit testing integration testing and debugging of the code

In deployment phase we release the code and provide support and do testing before the release of the actual code so this is about the purpose of implementation phase and how it differs from the deployment phase.

**37.Describe the role of stakeholders in the SDLC process. How do their involvement and feedback influence project outcomes?**

**A:** Before going into the question first we need to know who are stake holders

1.Customer

2.Manager

3.employee

4.investors

So we will see role of the stakeholders in the SDLC process.

**1.Requirement and analysis phase:**

Project manager**:** He will play a virtual role in both requirement and design phase. he will look after is every requirement is clear and stable and the roadmap for the project is clear or not

Customer/client: he will tell about his requirements and business needs. So we can analysis what are technical requirements and financial requirements

QA: we check whether all the requirements are clear and stable or nor.

UI/UX designer: he will imagine how the product will work and users interact.