**Testing Exercises:**

* What is the primary goal of manual testing?
* To find defects in software
* To automate the testing process
* To reduce the time required for testing
* To increase the efficiency of developers
* Which of the following is NOT a phase of the manual testing process?
* Test Planning
* Test Execution
* Test Automation
* Test Closure
* Which type of testing involves testing the software as a whole to ensure that all components work together?
* Unit Testing
* Integration Testing
* System Testing
* Acceptance Testing
* Which testing technique involves testing a system's functionality without knowing its internal code structure?
* White-box testing
* Black-box testing
* Gray-box testing
* Glass-box testing
* What is exploratory testing?
* Testing based on pre-defined test cases
* Testing without any specific test cases or plans
* Testing only the critical functionalities
* Testing performed by an external team
* In which phase of the software development lifecycle is manual testing typically conducted?
* Requirement Analysis
* Design
* Implementation
* Testing
* What is the purpose of regression testing?
* To validate if the software meets the specified requirements
* To ensure that new changes haven't adversely affected existing functionality
* To test the software in various operating environments
* To verify if the software is user-friendly
* Which of the following is NOT a common type of manual testing?
* Functional Testing
* Performance Testing
* Security Testing
* User Acceptance Testing
* What is the main advantage of manual testing over automated testing?
* Greater test coverage
* Faster execution of tests
* Human intuition and creativity
* Consistency in test execution
* What is the purpose of smoke testing?
* To verify if the software is stable enough for further testing
* To test the core functionalities of the software
* To test the software in various browser environments
* To ensure that the software meets all specified requirements
* What is the purpose of usability testing?
* To verify if the software performs efficiently under high load
* To ensure that the software is user-friendly and intuitive
* To test the software across different operating systems
* To check for security vulnerabilities in the software
* Which testing technique involves executing the test cases in a random order to identify defects?
* Ad-hoc Testing
* Boundary Testing
* Equivalence Partitioning
* Sanity Testing
* What is the main focus of acceptance testing?
* Validating if the software meets specified requirements
* Testing individual components or modules of the software
* Evaluating the overall performance of the software
* Ensuring that the software is compatible with different devices
* Which of the following is NOT a commonly used manual testing technique?
* Boundary Value Analysis
* Equivalence Partitioning
* Fuzz Testing
* Code Coverage Analysis
* What is the purpose of ad-hoc testing?
* To verify if the software performs well under normal conditions
* To execute pre-defined test cases systematically
* To test the software without any specific test cases or plans
* To test the software in different languages and locales
* What is the main advantage of pairwise testing?
* It ensures that every possible combination of inputs is tested
* It reduces the number of test cases while providing good coverage
* It focuses solely on testing user interfaces
* It allows for automated test execution without human intervention
* Which type of testing involves executing test cases in a controlled environment that simulates the production environment?
* Alpha Testing
* Beta Testing
* Regression Testing
* Smoke Testing
* What is the primary purpose of sanity testing?
* To ensure that the software meets all specified requirements
* To verify if the software is stable enough for further, more comprehensive testing
* To test the software in a variety of real-world scenarios
* To evaluate the software's performance under varying load conditions
* Which testing technique involves testing the software's response to unexpected inputs or conditions?
* Negative Testing
* Positive Testing
* Boundary Testing
* Equivalence Partitioning
* What is the primary focus of compatibility testing?
* To verify if the software performs efficiently under high load
* To ensure that the software is compatible with different devices, browsers, and operating systems
* To test individual components or modules of the software
* To evaluate the software's security features
* What is the primary goal of regression testing?
* To ensure that the software meets specified requirements
* To verify if the software is stable enough for release
* To ensure that new changes haven't introduced defects in existing functionality
* To test the software in various operating environments
* Which testing technique involves testing the software's ability to recover from crashes or failures?
* Recovery Testing
* Performance Testing
* Compatibility Testing
* Installation Testing
* What is the main focus of localization testing?
* To verify if the software performs efficiently under high load
* To ensure that the software is compatible with different devices
* To test the software's behavior in different locales and languages
* To evaluate the software's security features
* Which of the following is NOT a category of software testing?
* White-box testing
* Black-box testing
* Gray-box testing
* Blue-box testing
* What is the purpose of static testing?
* To verify the software's behavior under varying load conditions
* To test the software without executing the code
* To simulate real-world usage scenarios
* To evaluate the software's compatibility with different devices
* What is the primary focus of boundary testing?
* To test the software's ability to handle unexpected inputs or conditions
* To test the software's response to extreme or boundary values
* To verify if the software meets specified requirements
* To ensure that the software is user-friendly and intuitive
* What is the purpose of test case prioritization?
* To ensure that all test cases are executed in a specific order
* To identify which test cases should be executed first based on their importance
* To allocate resources for test case execution
* To generate additional test cases automatically
* Which testing technique involves testing the software's ability to handle large volumes of data?
* Volume Testing
* Stress Testing
* Load Testing
* Scalability Testing
* What is the main focus of smoke testing?
* To verify if the software is stable enough for further testing
* To test the core functionalities of the software
* To test the software's performance under varying load conditions
* To test the software's compatibility with different devices
* What is the primary goal of acceptance testing?
* To verify if the software meets specified requirements
* To ensure that the software is user-friendly and intuitive
* To identify defects in the software
* To test the software's performance under varying load conditions
* Define Software Development Life Cycle (SDLC) and briefly explain its primary phases.

SDLC:

SDLC stands for software developmwnt lifecyccle.

It gives important phases inorder to develop the software/application.

It mainly ccontains 5 different phases: Requirement analysis, System design, Implementation, Testing and Deployment and Maintainance.

Requirement analysis: The stakeholders and the Project manager will be involved inn this phase inorder to define the requirements.

Once the requirements are gathered then the requirements will be analysed to produce SRS(Software Requirement Specification Document).

System Design: Once the SRS produced then based in the SRS the System Architecture will design the System based on the requirements.

In this phase 2 documents will be produced: High Level Docuent and Low level Documet.

High Level document: It contains the code logic, pseudocode will be present.

Low Level Document: Font size, Font colours, menu boxe, and the check boxes.

Implementation: In this phase the developers will develop the code required for the software.

Testing: In this phase the testing of the software will be done. The testers will be involved in the testing of the software.

Depoyment and Maintainance: The software will be deployed into the production environment and the software will be maintained.

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

Identify stake holders.

Define SRS.

Minimise ambigity and misunderstandings.

Create SRS.

Validate feasibility.

Establish scope.

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

Architectural foundation.

Miniise dev risks.

Ensure system scalability and performance.

Bridges Requirements and Development.

Enhances maintainability

Improves communication ad collaboration.

Cost and time optimization.

* Discuss the importance of thorough Testing during the SDLC.

To deliver the Quality software we need testing.

To ensure the Customer Satisfaction.

To ensure the softwrae is bug free.

To find the hidden bugs.

To ensure that the software is running smoothly over different platforms.

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

Waterfall:

It is a sequential process.

The requirements were fixed.

The next phase wil be started once the previous step was finished.

No collabaoration between Dev team and the Qa team.

Testers will be involved later.

No Collaboration with the customers.

Good for smaller projects.

Can't go to the previous step.

Documentation are done.

Phases: Requirement Analysis, System design, Implementation, Testing and Deployment.

Advantages:

Good for small projectts.

Doccumentations are done.

Less cost.

Disadvantages:

Non adapatable to changes.

Can't go to previous step.

Not good for long projects.

Requirements are fixed.

No coolaboration

High risk of error.

Agile:

Combination of Wterfall and the Spiral model.

Iterative model.

For every sprint new version will be released.

SCRUM: framework of Agile methodology.

Commonly used.

Involves Sprints.

Sprint: Time period lasts upto 4-6 weeks.

Scrum Master: Resolve the issues that affect the day-to-day activities.

Sprint Meeting: Discuss about the sprint Like team size and the duration of the sprint.

Sprint Planning: In this the plan like what feautures should be released and how it should be developed will be discussed.

Sprint Retrospective: In the reviews will be done and would be learned fromm the previous sprint.

Grooming calls : The requirements wwill be devided into the Epics(Huge amount of requirements).

These Epics will be devided equally among the team members equally.

Advantages;

Can accept the changes even in the later stages.

Can be adaptable easily.

Customer collaboration is high.

Collaboration between the Dev team and the QA team is good.

No need to wait for the longer time to release the software.

Disadvantages:

less focus on Design and the Documentation.

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

The whole structure and the functionalities will be built in the Implementation phase.

In the Deployment phase we deliver the soft to the Stakeholders/Clients.

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

The Stakeholder's will propose the requirements, structure and the fuctionality of the software.

According their requirements we need to develop the software structure .

They play a pivotal role in defining the functionalities and structure of the software.

* Explain the concept of Iterative Development in the context of SDLC. How does it contribute to project success?

It Consists four phases:

Plan, Execute, Test and Deploy and Review and get the feedback.

Iterative model release the soft ware in the less period of time.

For every iteraton the new version of the software will be released.

This helps to update the new feautures/ undo the feautures according the client.

Adapatable to the changes.

This helps to keep-up-to-date with the market trands.

Good Collaboraton exist between the customers and the team.

* Discuss the importance of Documentation throughout the SDLC. What types of documents are typically produced at each phase?

The documents helps in the understanding of the software developement that it has benngone through.

Documents helps in the review the cause of the bug.

Documents Involved;

Business REquirement Specification; Produced when the requirements are gathered.

Software Requirment specification; Produced after analysing the requirements based on the BRS.

High Level Design Doc: Produced in the System design contains code logic, pseudocode.

Low Level Design Doc: Produced in the System design conatins font size, check box size, menu box size, font colours etc.

Test Case Report; The no.of testcases written and what are written. Will be produced by the testers before starting the testing.

Defect Report: Contains tge no.of testcases executes, no.of test cases passed, no.of testcases failed, no.f test caes blocked.

* How does the Maintenance phase contribute to the overall success and sustainability of a software product? Discuss the activities involved in this phase.

After the deployment of the software into the client's servr the software should be maintained inorder to avoid the bugs.

Becauuse few issues may be triggerd: Volume , Stress and Load.

* Outline the key challenges faced during each phase of the SDLC and propose strategies to mitigate them.
* Describe the role of Quality Assurance (QA) and Quality Control (QC) in ensuring the reliability and quality of software products during SDLC.
* Explain the concept of Risk Management in SDLC. How can risks be identified, assessed, and mitigated throughout the software development process?
* Discuss the importance of Change Management in SDLC. How should changes be managed to minimize disruptions and ensure project success?
* Describe the role of Project Management in overseeing and coordinating the various activities within the SDLC. What skills are essential for an effective project manager in this context?