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1-3 Journal - The Role of Testing in the Software Development Life Cycle

* What occurs during the testing stage of the SDLC?

Testing should ideally occur throughout the lifecycle of the software. The software testers should ideally begin with checking the requirements for any ambiguities, mistakes, or omissions; this is known as static testing and no code is run. Throughout the test process, there are typically planning of the tests, monitoring and controlling tests, test analysis, design, and implementation, test execution, and test completion. According to this week’s reading in Software Testing Certified Tester Foundation guide, testers begin by defining test criteria and test objectives. Monitoring and control involves looking at exit criteria during different test stages, checking results and determining if more tests should be run. Test analysis examines the Test Plan or “basis”, checking user requirements, specific implementation or architecture details, and functional or nonfunctional aspects of the system. Test design involves creating test cases, identifying test data and test environment. Test implementation prioritizes tests and automated test scripts on a schedule, and according to what needs to be tested with highest priority. Test execution is running the tests manually or with automated tools such as Junit and Selenium, and reporting defects based on test failures. Test completion creates a test summary report , using information to make future testing easier/smoother.

* Why is the testing stage vital to a successful SDLC?

The reason we need to test as early as possible is, according to the reason, that “errors are much cheaper to fix than defects or failures”. Specifically, this involves static testing at the requirements document or specification level. Additional testing throughout the lifecycle prevents costly defects, ensures user requirements are satisfied, finds failures and defects, and comply with regulation standards. The cost of not catching a defect can be exponentially higher as the stages of the software lifecycle continue.

* Are there any exceptions in which the testing stage would occur earlier or later than it typically does in the SDLC? Explain.

Yes, under the V-Model testing design, which is an extension of the waterfall model, each corresponding test phase of the development phase is planning in parallel, as the execution of processes happen in a more sequential manner. Deliverables are parallel which might involve the testing stage occurring earlier or later than usual in SDLC.