Testing Defined
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Different Types of Software Testing

1. **Black-box Testing**: Functional testing based on requirements with no knowledge of the internal program structure or data. Also known as closed-box testing. Black box testing indicates whether or not a program meets required specifications by spotting faults of omission -- places where the specification is not fulfilled. Takes an external perspective of the test object to derive test cases. These tests can be functional or non-functional, though usually functional. The test designer selects valid and invalid inputs and determines the correct output.
2. **Functional Testing**: Application of test data derived from the specified functional requirements without regard to the final program structure. Also known as black-box testing.
3. **Integration Testing**: An orderly progression of testing in which software components or hardware components, or both, are combined and tested until the entire system has been integrated.
4. **Regression Testing**: Selective retesting to detect faults introduced during modification of a system or system component, to verify that modifications have not caused unintended adverse effects, or to verify that a modified system or system component still meets its specified requirements.
5. **System Testing**: The process of testing an integrated hardware and software system to verify that the system meets its specified requirements.
6. **Top-down Testing**: An integration testing technique that tests the high-level components first using stubs for lower-level called components that have not yet been integrated and that stimulate the required actions of those components.
7. **Unit Testing**: The testing done to show whether a unit (the smallest piece of software that can be independently compiled or assembled, loaded, and tested) satisfies its functional specification or its implemented structure matches the intended design structure.
8. **White-box Testing**: Testing approaches that examine the program structure and derive test data from the program logic. This is also known as clear box testing, glass-box or open-box testing. White box testing determines if program-code structure and logic is faulty. The test is accurate only if the tester knows what the program is supposed to do. He or she can then see if the program diverges from its intended goal. White box testing does not account for errors caused by omission, and all visible code must also be readable.
9. **Performance Testing**: Testing conducted to evaluate the compliance of a system or component with specified performance requirements.
10. **Usability Testing**: Testing conducted to evaluate the extent to which a user can learn to operate, prepare inputs for, and interpret outputs of a system or component.
11. **Acceptance Testing**: Formal testing to determine whether or not a system satisfies its acceptance criteria to be accepted by a customer.
12. **Beta Testing**: When an advanced version of software is available to potential users to install and test. Good for identification of unexpected errors.