Mikil. Lalwani D20B/37

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STQA

Assignment - 1

Q1) Explain effective and exhaustive testing.

Ans

	Effective testing	Exhaustive testing
a)	It emphasizes efficent techniques to test the software so that important features will be tested within the constrained resources.	It means that each and every possible combination of data must be executed.
b)	It is a practical method.	It not feasbile to perform complete testing.
c)	It is feasible because- i) It checks for ~~sowt~~ software reliability and no bugs in the final product. ii) It tests in each phase. iii) It uses constrained resources.	It is not feasible because- i) Achieving deadlines. ii) Various possible outputs. iii) Timing constraints. iv) No. of possible test enviorments.
d)	It is cost effective.	It is not cost effective.
e)	It is less complex and less time consuming.	It is complex and time consuming.
f)	It is adopted such that critical test cases are concerned first.	It conners all the test cases.

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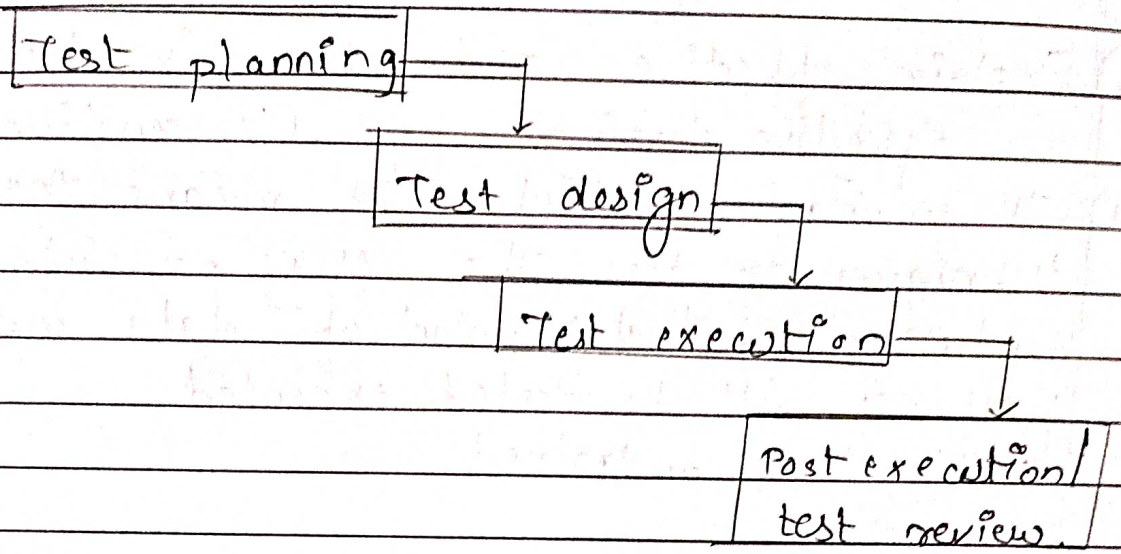
Q2) Explain STLC in details.

Ans



i) Test planning -

Defining the test strategy.

Estimate the number of test cases, their dura and cost.

Plan the resources like the manpower to test, tools required.

Identify the methodology, techniques and tools for various test cases.

Identifying, reporting procedures, bug classificatio databases for testing, bug severity levels and project metrics.

ii) Test design -

Determining the test objectives and their prioritizatio

Preparing list of items to be tested.

Mapping items to test cases.

a) Identifying the major test scenarios.

b) Identifying and reducing the ~~major~~ redundant test cases.

c) Identifying the absence of a test case for a particular objective and as a result, creating them.

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iii) Test execution-
Test execution takes place after the successful completion of test planning. In this phase, the testing team starts case development and activity. They write down the detailed test cases, also prepares the test data if required. The test cases are reviewed by peer members of the team or Quality Assurance leader.
RTM (Requirement testing matrix) is also prepared in this phase. RTM is industry level format, used for tracking requirements.

iv) Post execution Test review-
As soon as the developer gets the bug reported, he performs the following activity-
Understanding the bugs
Reproducing the bug
Analysing the nature and cause of the bug.
Reliability analysis
Coverage analysis
Overall defect.

Q3) Explain bug with its classification. Explain life cycle of bug.

Ans a) Bug is the presence of error at the time of execution.

b) Bug classification based on criticality
Critical bugs
Major Bugs
medium bugs
minor bugs

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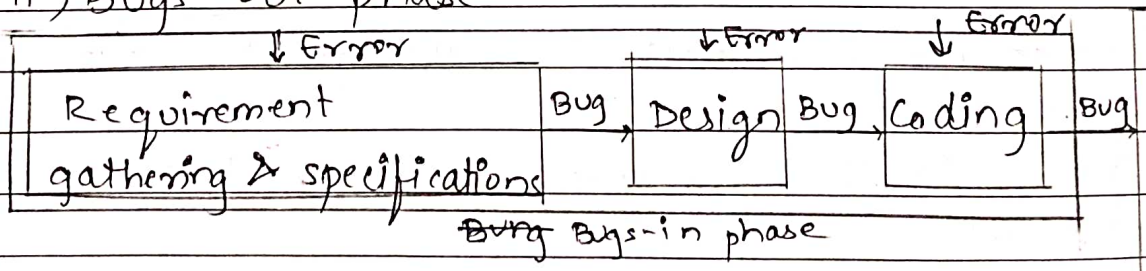
c) Bug classification based on SDLC -

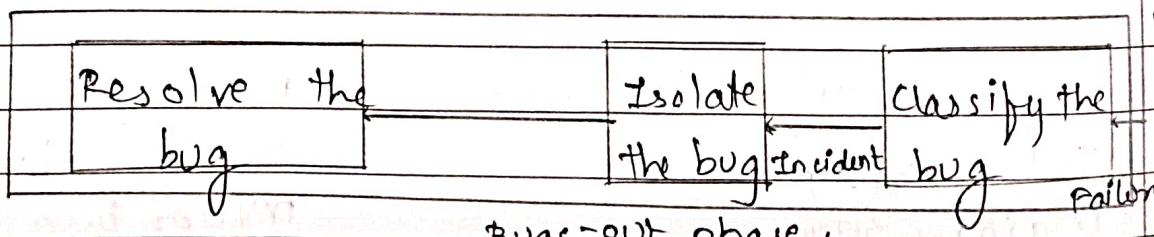
Requirements and specifications bug
Design bugs
- Control flow bugs
- Logic bugs
- Processing bugs
- Data flow bugs
- Error handling bugs
- Race condition bugs
- Boundary-related bugs
- User interface bugs

Coding bugs
Interface and integration bugs
System bugs
Testing bugs.

d) Life cycle of a bug -

Two phases -
i) Bugs-in phase
ii) Bugs-out phase





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Q4) Differentiate between verification and validation.

ans

	Verification	Validation.
a)	It includes checking documents, design, codes and programs.	It includes testing and validating the actual program.
b)	It is static testing.	It is dynamic testing.
c)	Doesn't include execution of code.	Includes execution of code.
d)	Methods for verification are inspection, walk throughs and reviews.	Methods for validation are white box testing, black box testing and non-functional testing.
e)	It checks whether the software conforms to specifications or not.	It checks whether the software meets the requirements and expectations of a customer or not.
f)	It can find bugs in early stage of development	It can only find bugs that could not be found by the verification process.
g)	Quality assurance team does verification.	Validation is done by testing team.
h)	Validatio It is for prevention of errors.	It is for detection of errors.

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Q5) Differentiate between black box and white box testing.

Ans:

	Black box testing	White box testing
a)	It is a way of software testing in which the internal structure of the program or the code is hidden and nothing is known about it.	It is a way of testing the software in which the ~~software~~ tester has knowledge about the internal structure or the code or the program of the software.
b)	It is mostly done by software testers.	It is mostly done by software developers.
c)	No need of implementation is needed.	Knowledge of implementation is needed.
d)	It is a functional test of software.	It is structural test of software.
e)	No need of programming knowledge.	It is mandatory to have knowledge about programming.
f)	It is least time consuming.	It is most time consuming.
g)	It is less exhaustive.	It is comparably more exhaustive.
eg-	Functional, non-functional and regression testing.	Path, loop and condition testing.