Expert View Automation

Manual

EXPERT VIEW AUTOMATION

MONDH - BHADOHI

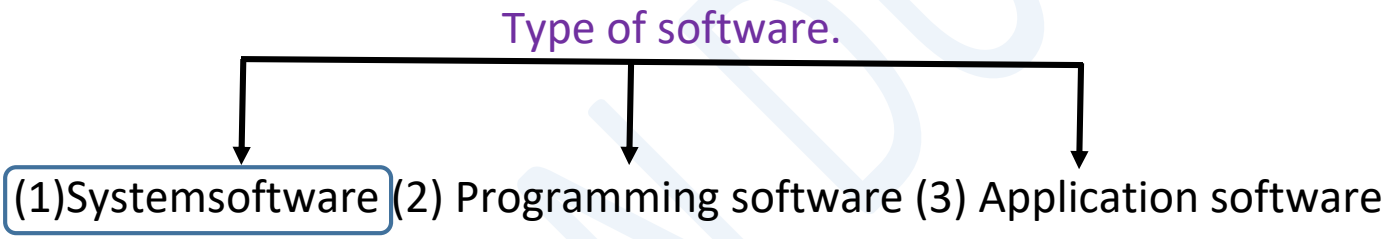
What is software?

Ans. A software is a collection of computer programs that helps us to perform a task.

Example. I take a mobile in mobile should be software.Suppose in your mobile don't have any software like What'sApp ,facebook and any software in this condition your mobile can not be perform .So we need to software to perform a task.

What is program?

Program is coding which is understand by the machine



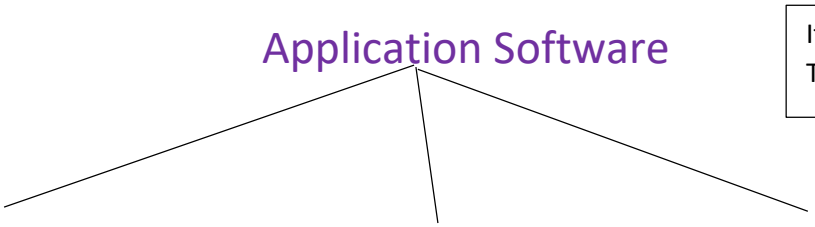
What is System software?

The system software which is used to run the system

Example. Device driver, Opereting system ,Server, Utility

What is Programming software?

Suppose devoloper write some code he wants to execute this code .He will be execute with the help of compiler,debugger, interpreter



It is most important for software Testing

Web based Application Mobile Apps Desktop or windows basedApplication

What is Web Application?

We are using in daily life What'sApp ,facebook, instagram, all thing comes in web Application we have to need to internet.

What is Mobile Apps?

Suppose you operate mobile. In your mobile have more apps All those apps comes in application software.

What is Desktop based or Windows based Application?

Suppose we install those application in your laptop means excel, notepad, winword, calculator those all come in Desktop based Application

What is software Testing? imp

Software Testing is a part of software devolepment process

Or

Software Testing is an active to detect identify the defects in the software.

What is project and product? imp

Project:- If A software is developed for specific costomer based on requirement then it is called project.

Product:- If A software is developed for multiple costomer based on market requirement then it is called product.

Example:- Flipkart,amazon,instagram,excel ,

Software Quality?

If you are developing a software during developing software five things should be then it will be said software quality

1 Bug-free

2 Delivered on time

3 Within budget

4 Meets requirement and or expectation

5 Maintainable

Why do we need Testing? imp

We need Testing because we have to deliver quality to costomer(clint)and in software should not be.

Softaware doesn't have any bug

Software should be work according the costomer requirement

What is error , bug,defect,failure imp

Error:- A mistake in code then it is called error

Bug :- Error found by tester then it is called bug.

Defect:- If tester assign error to the developer for developer it is called defect.

When expected value and actual value are mismatch then it is called defect.

Failure:-After developing the software the costomer(clint) found any fault

That's means functionality is not working properly then it is called failure.

Why the software has bugs?

Because of 5 things software has bugs.

1 Miscommunication or no communication

2 Software complexity

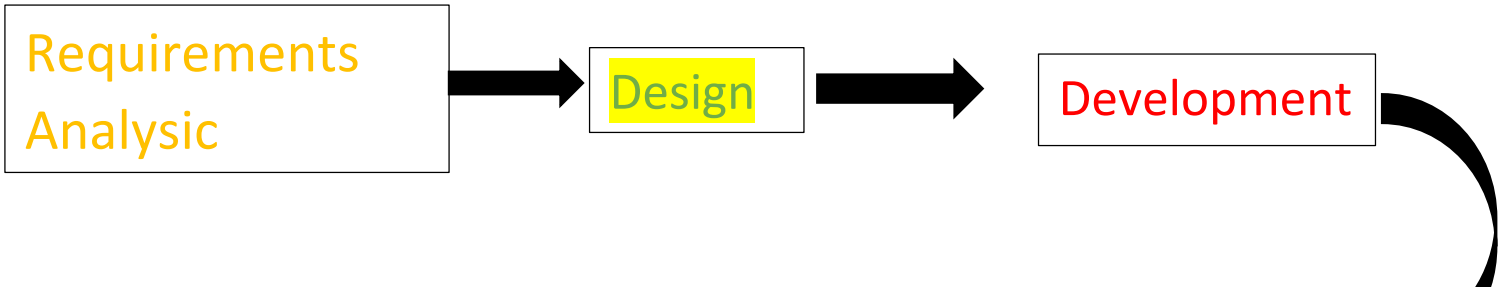
3 Programming error

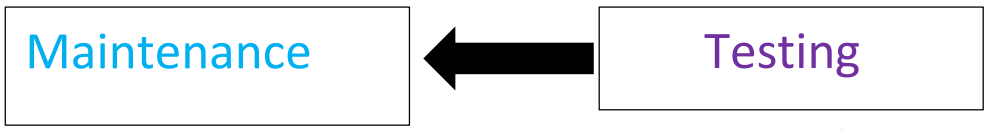
4 Changing requirements

5 Lack of skilled tester.

S.D.L.C(Software Development Life Cycle)

Software development life cycle is a process used by software industry to design, develop and test software.



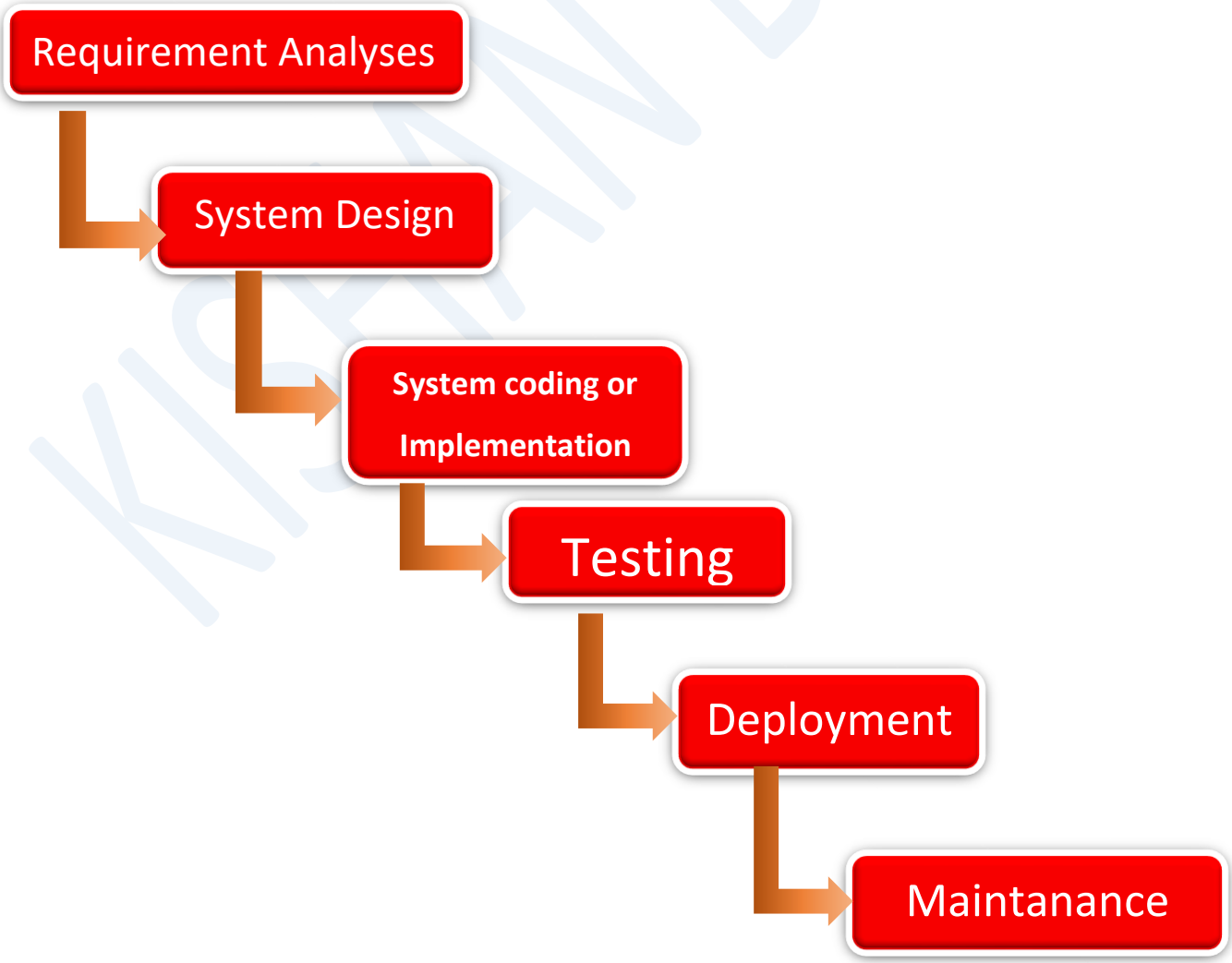


Water Fall Madol

This is one of module which comes under SDLC , it has many phases same seen of SDLC but approaches will be different.

Water fall are made for small project

There are 6 phases.



Requirement Analyses

Requirement Analyses means we will collect the document or we will gather the requirement from costumer's and we will prepare certain document.

Each and Every activity will be documented.

Documentation is very important in this module.

Once the document is created the System design will start.

System design

Whatever the document we prepared during the requirement analyses based on that document, the software is designed

System coding or development

After the system design phase, the developer will develop as implement the software based on the designed documents.

Testing

After the development Testing phase will be started and after that deployment takes place on costumer's environment.

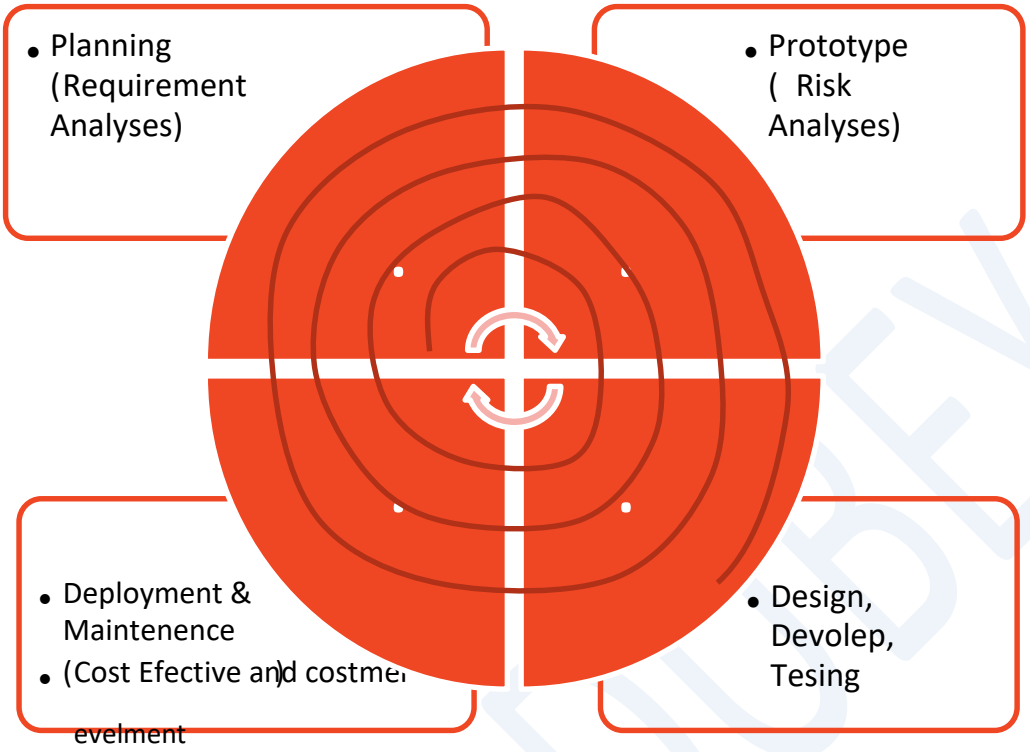
Advantage of Water fall

- Quality of the product will be good
- Since requirement changes are not allowed so chance of finding bugs will be less.
- Initial investments are less since the tester are hired at the later stages.
- Preferred for small project where requirements are freeze.(What'sAap,telegram)

Disadvantages of Waterfall

- Requirement changes are not allowed
- If there is defect in requirement that will be continued in later phases
- Total investments are more because time taken rework on defect is time consuming leads to high investment
- Testing will start after coding

Spiral Module



- ❖ Spiral modal is an iterative modal.
- ❖ Spiral modal over comes drawback of water fall modal.
- ❖ In every cycle new version of cycle will be release to the costumer.
- ❖ Software will be release in multiple version so it is also called version control modal.

Advantages: -

- ➢ Changing requirement is possible.
- ➢ Testing is done in every cycle before going to the next cycle.

- Costumer will get to use to software for every modal.
- Requirement changes are allowing every cycle before going to the next cycle.

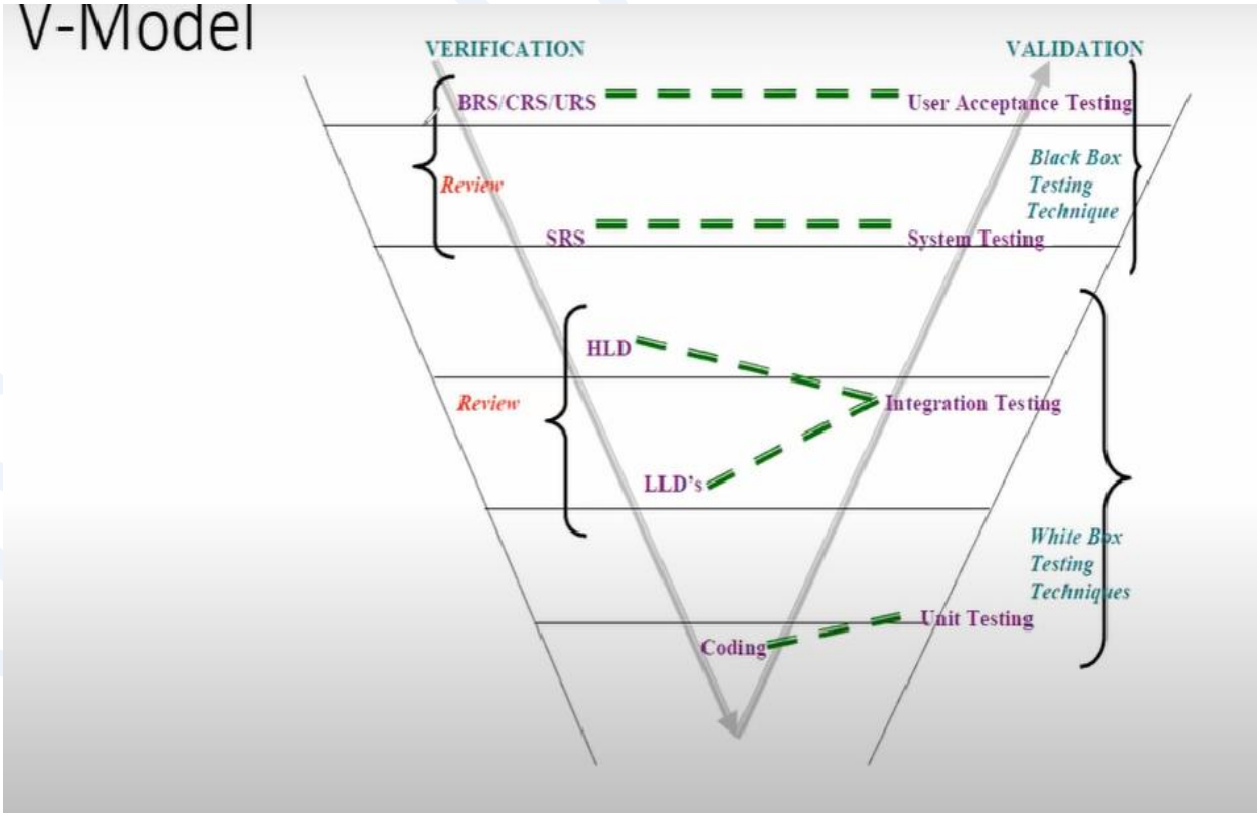
Disadvantages: -

Requirement changes are not allowed in between the cycle.

Every cycle of spiral modal looks like water fall modal.

There is no Testing in requirement and design phase.

V Module



BRS : Business Requirement Specification

CRS : Customer Requirement Specification

URS : User Requirement Specification

SRS : Software Requirement Specification

FRS : Functionality Requirement Specification

FRD: Functionality Requirement Document

BRD: Business Requirement Document

FRD: Functionality Requirement Document

HLD : Height level design document (Architect Design). Main module

LLD : Low level design document (Module Design). Sub module

BRS,CRS,URS are prepared by BU(Business Unit person)
SRS Document is prepared by the Project or Product Manager
HLD,LLD, is prepared by Designer

Static Testing
Testing the project related documents is called static Testing
In form of
Review, Imp
Walkthrough, Imp
Inspection Imp

Dynamic Testing
Testing the actual software
Unit Testing
Intergration Testing
System Testing
UAT

What is varification?(Imp)

- Varification checks whether we are building the right product
- Focus on Documentation
- Varification
- Static technic we will use in varification
- Review
- Walkthrough
- Inspection

Review

Requirement Review
Design Reviews
Code Reviews
Test plan reviews
Test case reviews etc.

Walkthrough

It is a informal review
Author reads the documents or code and discuss with peers
It’s not pre-planned and can be done whenever required
Also walkthrough does not have minutes of the meet

Inspection

It’s most formal review type
In which at least 3-8 people will sit in the meeting 1- reader 2- writer 3 moderator plus concerned

What is validation imp

Validation checks whether we are building the project right

Focus on Software

Dynamic Testing

Testing the actual software

Unit Testing

Intergration Testing

System Testing

UAT

Dynamic Testing comes under Validation

WhiteBox Testing

White Box Testing is conduct by Devoloper because in this Testing doveloper knows about logic and coding

Unit Testing and Intergration Testing comes under white box Testing

Blackbox Testing

Black box Testing is conduct by Tester along with User

System Testing and User acceptance Testing comes under Black box Testing in this Testing Tester doesn't know about codding

In this Testing tester wants to know software is warking according to the costomer requirement or not

Advantage of V model

1 Testing is involved in each and every phase.

Disadvantage

1 Documentation is more
2 Initial Investment is more

Unit Testing Prepared

Unit Testing is way to test unit ,smallest piece of code that can be logically in a system It is conduct by the developer

Integration Testing Prepared

Intergration Testing is type of software Testing in which the different units, modules or components of a software application are tested. It is also conduct by developer

System Testing

System Testing is part of software Testing in which we have to test new functionality of software. But one important thing before test new functionality of software we have to test smoke Testing that means our previous functionality are not being defected through the new functionality so before the System Testing smoke Testing is very very important

Example :- Suppose we are going to repare our motorcycle in our motorcycle only brack is apply properly this thing comes in system software

But before check brack we have to check basic thing our motorcycle that means smoke Testing is important along with system Testing

Rahul Sir

How to run a cycle in any company .what type of process is followed

Client:- Client is a owner which have made any software by the software team.

Vendor:- Which company will make any software after saying the client .

1 At first comes in picture That is BA (Business Analytics). He makes BRD(Business Requirement Document).

Example

Requirement 1 -----Registration functionality

There will be a registration page which will have following fields

1. UserName 6-25 words only limit may be Alphabet,or numeric or Alphanumeric
2. Password 8-20 words only limit
3. Re-type Password
4. FirstName

5 LastName
6 Address
7 Email-ID
8 Phone Number
9 Mobile Number

Smoke Testing
System Testing
Re Testing
Regression Testing

What is Smoke Testing?(Build verification Testing)

Smoke Testing is basic Testing phase in which we have to test basic business functionality of the software that means our basic software functionality is working properly or not
Example :- Whenever we go to repair of motorcycle suppose our motor is not able to run properly that means engine problem is there so in this condition after preparing the motorcycle

1 At first we check our motor cycle is able to start properly or not
2 Cluch and gare is working properly or not
3 Brack apply properly or not
These are all comes in smoke Testing
This rule follow in our software Testing that our software's basic functionality works properly or not

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Re-Testing?

When tester found any defect he informs to developer that it's defect, fix this and send me again when the developer send again then tester test then it is called Re-Testing
But Before the Re-Testing smoke Testing is importart that means on our basic functionality is not having to effect that means our basic functionality is working properly or not so we have to test smoke Testing.

Regression Testing?

If any new functionaliy changes in software or add any functionality any software in this cases we have to test regration Testing because after adding or changing the functionality in the

software on our previous funtionality are not being affected so we test regration Testing

What is manual Testing?

Manual Testing is a program to test a application software to manually ,It requires a tester to play role of end user to ensure the correct behaviour of the application

Types of manual Testing?

1 Black –Box Testing

2 White-Box Testing

1. **Unit Testing** — **It comes under whitebox te**
2. **Integration Testing**
3. **System Testing**
4. **Usability Testing**
5. **User Acceptance Testing**
6. **Senity Testing**

What is Automation Testing

Automation Testing is the process of various parts of software without human environment

It requires some set of tools, it also make sure Testing of software without human sitting infront of machine.

What is Manual Testing?

Manual Testing is proccess to test the software with manually that means with the help of hand.

Priority and Severity in Testing

Priority?

Degree of urgency to fix the defect is known as priority

Severity?

Or

Degree of seriousness to fix the defect is called severity

1 **High priority and High severity**

Suppose we want to purchase any product from e-commerce site like mobile,laptop,shoes,bag

But its payment button is not working properly then in this case priority and severity both will be high

2 **High priority and Low severity**

If any mistake in company logo or website logo then in this case periority will be high and severity will be low

3 **High severity and low priority**

When we input right credential and click on login button

That means we write right username and right password now we want to press on login button but it is taking more time for pressing then it is said it is high severity and low priority

4 **Low priority and Low severity**

If any mistake in product description so here is low priority and low severity.

Test casa design technic?

There are five types of test case design technic

1 Error guessing.

2 Equivalent class partitioning

3 Boundry value analysis

4 Dicision table technic

5 State transistion technic

1 Error guising>

Error guessing is one of the Testing technic to use to find the bugs in a software application based on the experience tester.

- In error guesing we don’t follow any specific rules
- This Testing technic is tested by experience tester

Equivalent class partitioning>

In this technic while divide the data we can test any one of data.

Suppose we have a lots of data.to our lots of data we can devide then in multiple part so that we are able to test the software easily and chances of bugs will be less and our software will be bug free.

I am showing one example .Suppose we have 100 number of data and we have to test it .Then we can test the data while the dividing in class partitioning.

Boundry Value Analysis?

BVA Technic is used to test boundry of data in this technique we verify 6 technique

Min Max

Min-1 Max-1

Min+1 Max+1

Decision table technique

Decision table technique will be used if we have more condition

Ex. We have a medical shop and we have 3 condition

Condition 1- New customer - 10% discount

Condition 2- Old customer -5% discount

Condition 3- Coupon code -5% discount

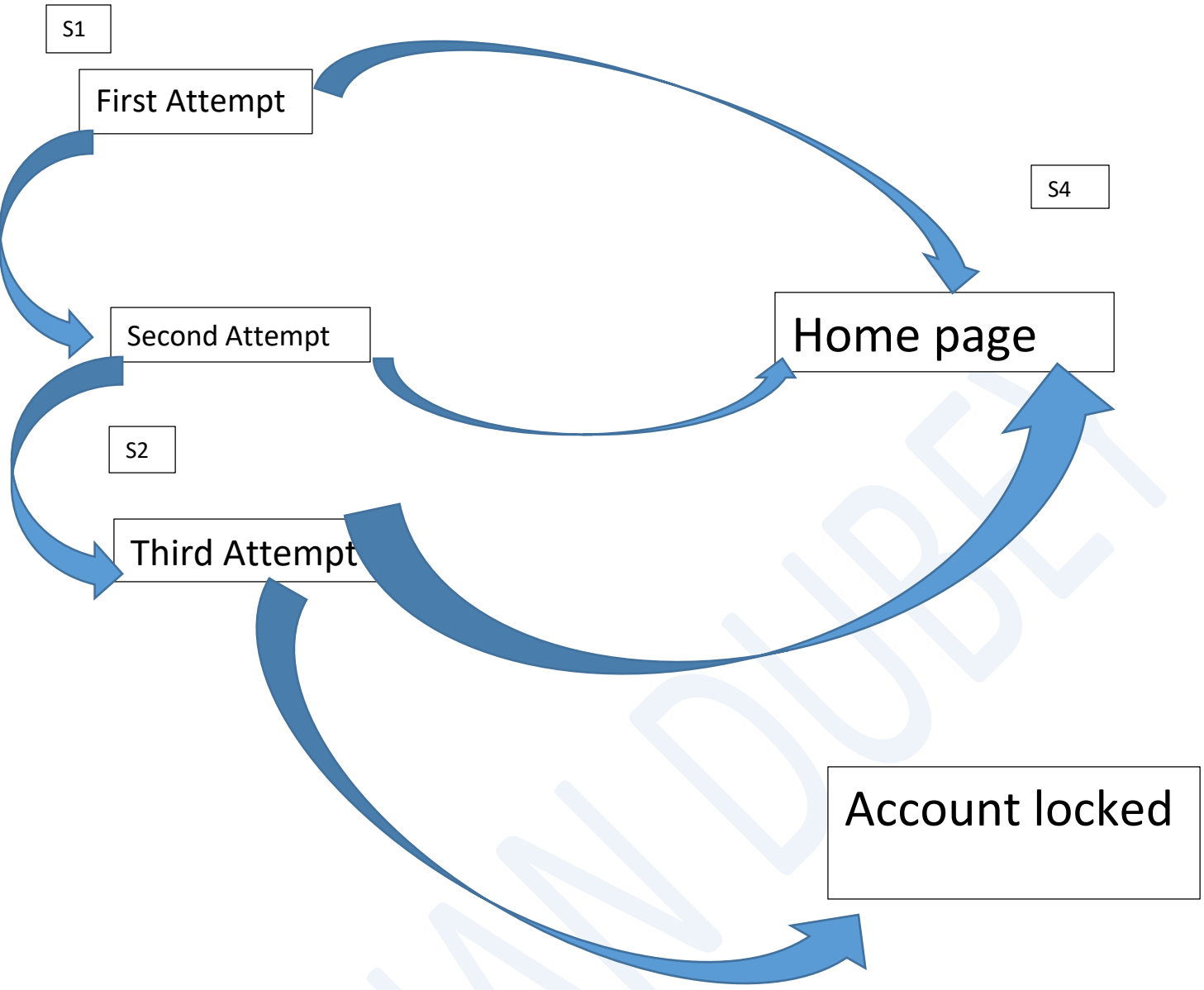
$=2^3= 8$

Rule1	Rule2	Rule3	Rule4	Rule5	Rule6	Rule7	Rule8
T	T	T	T	F	F	F	F
T	T	F	F	T	T	F	F
T	F	T	F	T	F	T	F
*	✘	✓	✓	✓	✓	✘	✓
ns	ns	ps	ps	ps	ps	ns	Ps

State transition Technique?

- In state transition technique changes in input condition change the state of the application.
- This state transition technique the Testing team provide positive as well as negative input test value for evaluting the system behaviour.

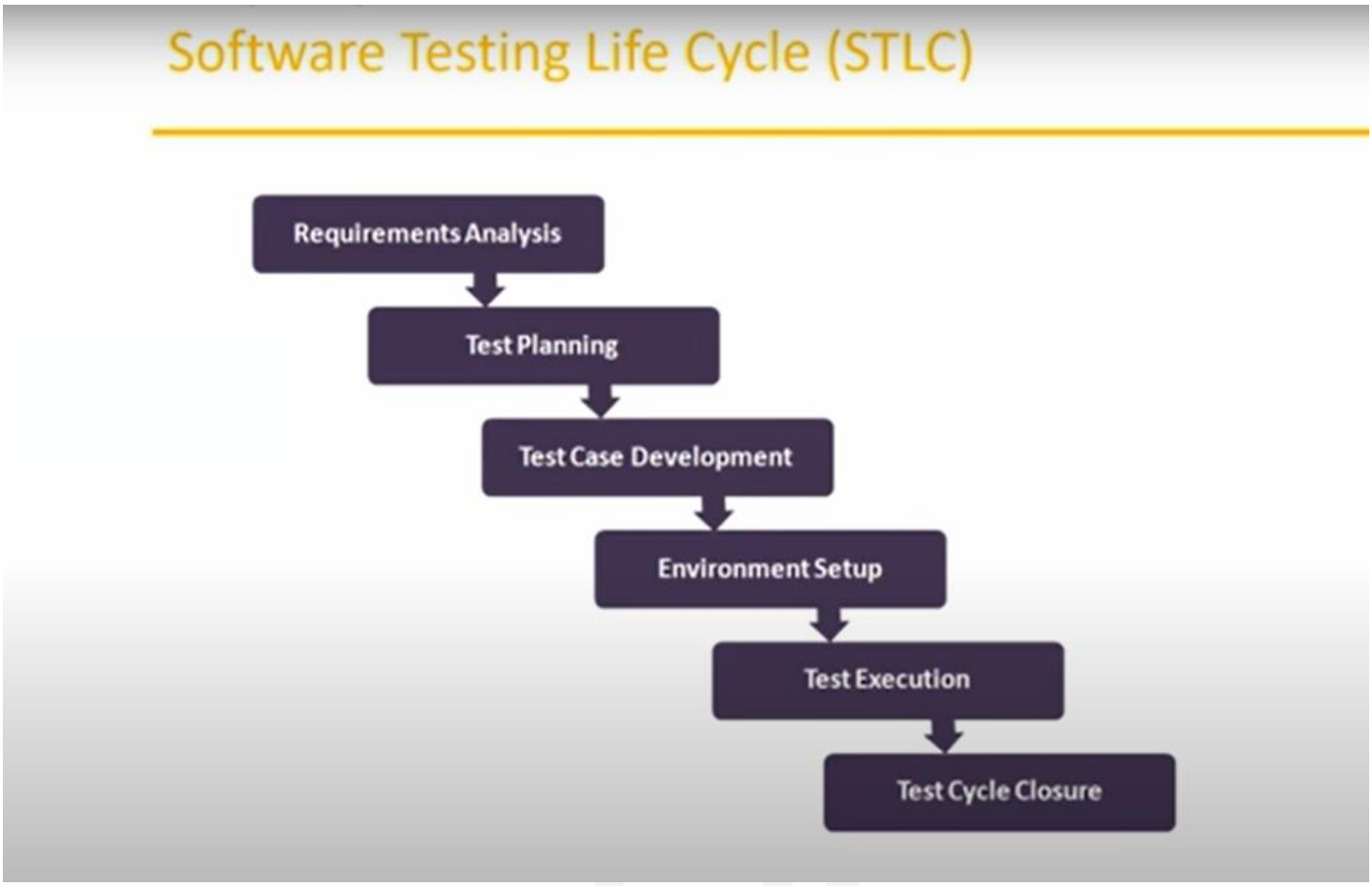
Example Take an example of login of an application which locks username after three wrong attempts of password.



STLC (Software Testing life cycle)

(STLC) means software Testing life cycle means software Testing life cycle it is performed by Tester STLC comes under SDLC

There are many phases in STLC



1 Requirement Analysis

We analysis the requirement and we understand requirement from Testing perspective .

This phases help to identify the whether the application is tastable or not

If any requirement is not testable then test team communicate to with various stake holder .During this phase mitigation strategy can planed.

2 Test plane

I. Test plane is documentation
II. Test plane is conduct by test lead test manager
III. Test plane can be changed
IV. Test plane is used at project level
V. Test plane has primary goal that means what to test, how to test, when to test
VI. Test plane derive from SRC

3 Test design

I. Devolope the test cases based on scope of Testing. It means prepare the all possible scenario and when be make test cases be half of all possible scenario.

II. In this phases test team start with the test case development activities.
III. Test team prepares test cases, test data, test script, and also prepare RTM

4 Test Inviroment Setup

I. Test environment setup is based on all hardware and software requirement list
II. This phase can be started with design phase
III. When integrate environment is ready to valid the product

5 Test Execution

Test team starts executing the test case based on plane test case

6 Test closer

I. Once Testing is completed test matrix test report, result or documented

II. It means when we will perform the test closer report thest matric based on about criteria
III. In which we mention How many test cases has passed and how the test case has failed

7 Principle of Manual Testing

1 Testing shows presence of defects

2 Exhaustive Testing is not possible

3 Early Testing

4 Defect clustering

5 Pesticide Paradox

6 Absence of error fallacy

7 Testing is context dependent

1 Testing shows presence of defect?

Ans:- 1 Software Testing talks about presence of defect doesn't talk about absence of defect

2 Software Testing reduces the presence of defects.

3 Even multiple Testing can never ensure that software is 100% bug –free

2 Exhaustive Testing is not possible

Ans- 100% Testing is not possible means the software can never test at every test cases.

It can test only some test cases and assume that software is correct and it will produce the correct output in every test case

Example:- If there is any changes in our application again we have to test the software.

3 Defect clustering

In a project a small number of the module can contain most of the defects.

Software Testing state that 80% of software defect comes from 20% of module

4 Pesticide paradox

Repeating the same test approach again and again then finding of new bugs will be less

It is necessary to review the test case and add or update test cases to find new bugs.

5 Early Testing

The defect detected in early phases of SDLC will very less expensive.

For better performance of software, start software Testing will start at initial phase

6 Absence of error fallacy

If a built software is 99% bug but is doesn't follow the customer requirement then it is unusable

It is not necessary that software is 99% bug-free but it also mandatory to fulfill all the customer requirement

7 Testing is context dependent

Testing approach depends on context of software developed.

2 Different types of software need to perform different types of Testing

3 The Testing of the e-commerce site is different from the Testing of the Android application

Level of Testing

i Unit Testing

ii Integration Testing

iii System Testing

iv UAT Testing

1 Unit Testing

Ans:-

(i) Unit Testing is a first level of Testing

(ii) It's done by developer

(iii) In the Unit Testing devoloper will test each and every component of the application

(iv) Unit Testing comes under the white box Testing

Example

2 Integration Testing

Ans:-

(i) It is second level of the Testing

(ii) It is also done by developer

(iii) In the integration Testing developer will integrate more than two modules and he will cheak all modules integrated or not.That means that module should be compactable

(iv) It comes under the white box Testing

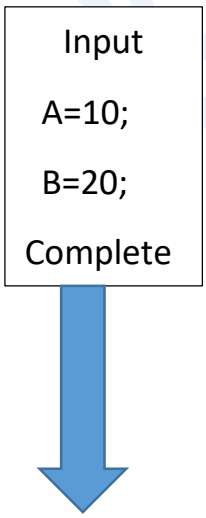
There are two types of Integration Testing

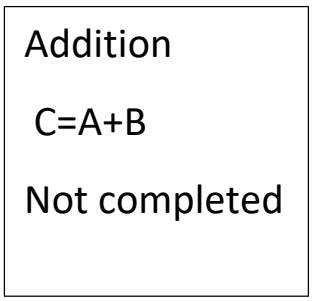
1 Top-down 2 Bottum- up

1 Top-down or(Stubs)

Ans :- Whenever our uper modules is completed but lower module is not completed then Developer will write dummy code in lower module for the Testing the upper module.

Example:-



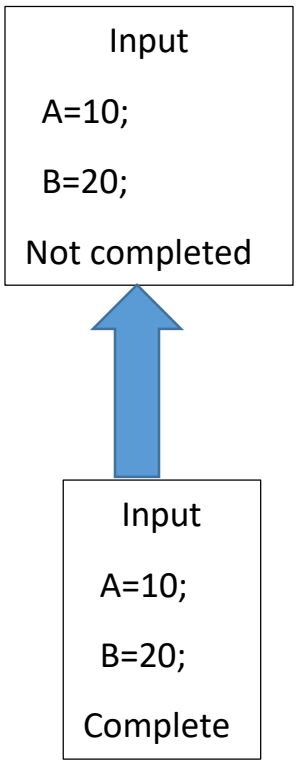


There we have two modules input module and Addition module and Addition module is not completed and we want to test the input module then we will have to a dummy code in lower module(Addition module) for Testing the upper module

2 Bottum- Up(Driver)

Ans:- Whenever our lower module is completed but upper module is not completed then Developer will write dummy code in upper module to test the lower module

Example:-



There we have two modules input module and Addition module and Input module is not completed and we want to test the Addition module then we will have to a dummy code in upper module(Input module) for Testing lower module

System Testing

Ans:- i System Testing is the third level of the Testing

ii In the system Testing tester will test the whole application.

iii System is also known as end to end Testing

System Testing are two types

i Functional Testing

ii Non-Functional Testing

iv In the system Testing tester will test the functional and non-functional both.

1 Functional Testing

Ans:- In the functional Testing tester will test the functional of the application

ii In the functional Testing we want to make sure that after preforming and event of the application

iii User should get any response

Suppose we have an application like a flipkart .In the flipkart when user use valid crenditial for login button and hit the login button and user should nevigate on home page

Types of functional Testing

I Smoke Testing

ii Re-Testing

iii Regression Testing

iv Senity Testing

v Monkey Testing

vi zig-zag Testing

vi Exploratory Testing

vii Ad-hoc Testing

2 Non-Functional Testing:-

Ans:- It comes under the system testing .In which tester will test the non-functionality of the application

Suppose we have a login page in that we want to test non-functionality of the login button

In login button we will cheak the color,font,size,text.

Type of the Non-Functional testing

i UI Testing(User interface testing)

ii GUI Testing(Graphical user interface testing)

iii Security Testing

iv Load Testing

v Preformance Testing

vi Stress Testing

(i) Smoke Testing

Ans:- Smoke testing basically that our application is testable or not .

In which we want to know that our application is testable

It is also known as BVT(Build verification testing)

It is conduct by developer and tester

(ii) Re-testing

Ans:- After fixing the bug and again we will test the same work then it will called Re-testing

It is conduct by QA

(iii) Regression Testing

Ans:- After adding the new functionality

After changing the functionality after re-testing.Then we will start the regression testing for knowing that here is no adverse effect on the other functionality during the performance these things.

It is conduct by QA

(iv) Sanity testing

Ans:- In this testing we will test the any functionality in deep and narrow part .

It is a subset of regression testing

Monkey Testing:-

Monkey testing is type of software testing which is performed based on some random inputs without any test case and checks the behaviour of the system and cofirms whether it crashed or not.

In Monkey testing ,no test case is used to test the application as it is part of random testing.

The Monkey testing approach is primarily used in System testing

Gorilla Testing :-

Ans:- Gorilla testing is a type of software testing which is performed on a module based on some random input repeatedly and checks the module's functionalities and cofirms no bugs in the module

It is performed repeatedly as it is part of manual testing

The Gorilla testing approach is mainly use in Unit testing

Adhoc Testing:-

Ans:- Adhoc testing is the testing of software without any documentation or requirements specification

Documention is not required

The main aim of adhoc testing to break the application

It is an informal approach.

Adhoc testing does not require an expert testing engineer.

Exploratory testing:-

Ans:- knowledge about the software

Documentation is mandatory in exploratory testing.

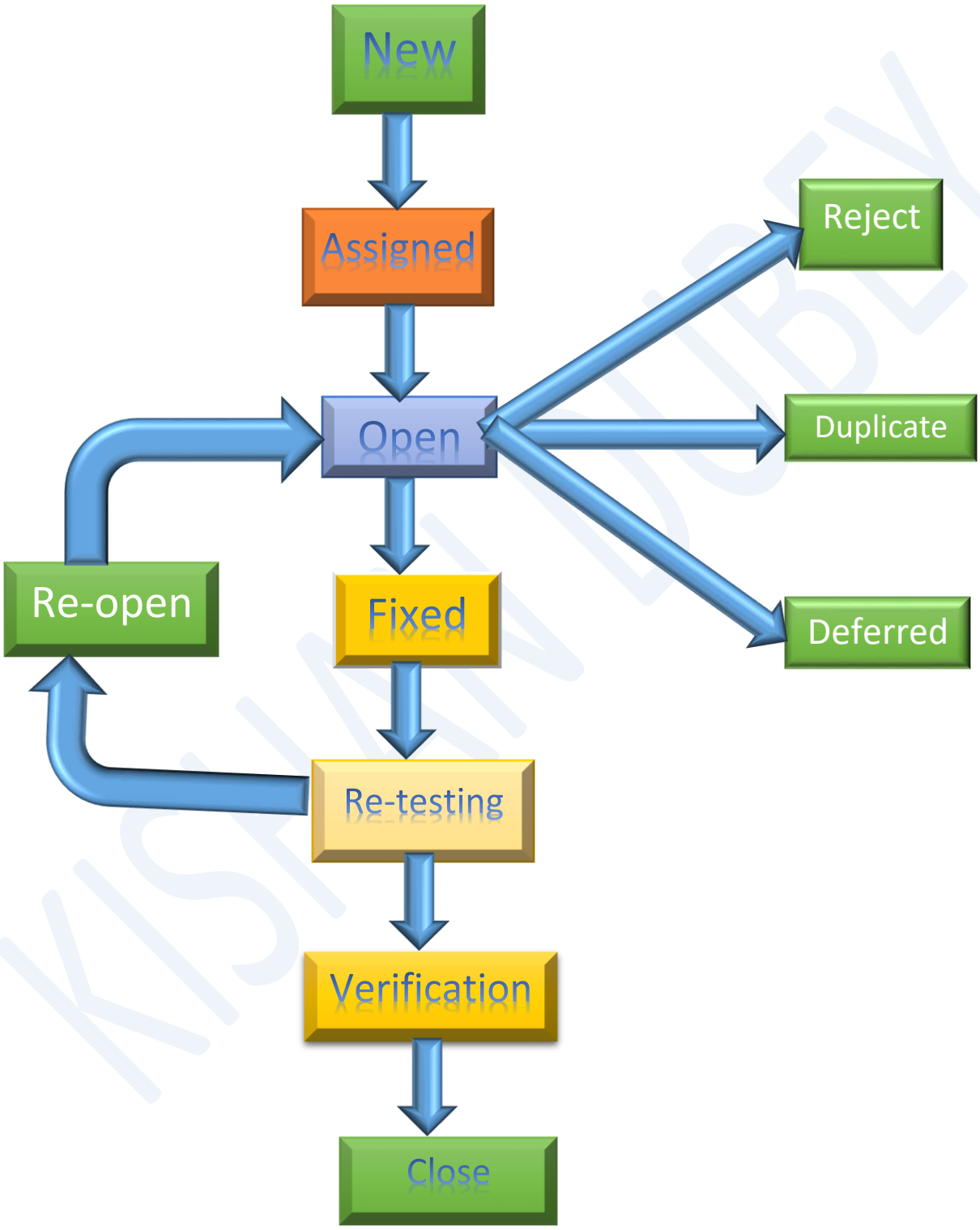
The main aim

of exploratory testing is to learn the application.

It is a formal approach.

Exploratory testing does not require an expert testing engineer

Defect or Bug Life Cycle



New:-

If the tester found any defect for the tester it will new status .

Assignment:-

After finding defect tester assign to developer

Open:- After assign the defect developer get the defect then developer open it what type of defect has been assigned.

There is some condition may be while opening

(i) Reject

(ii) Duplicate

(iii)Deferred

(i) Reject

Ans:-If tester assign defect or bug to the developer and developer is saying it is not bug on the contrary it is functionality of software in this condition developer reject it .

(ii) Duplicate

Ans:- If a tester allready is assigned bug to developer and developer has allready a such type of bug then he will understand it is duplicate bug which tester is assigned then developer put this bug in duplicate phase.

(iii) Deferred

Ans:- If bug's priority and severity is low then developer says that on this bug can be worked during the period of time then developer put this in deferred.

Fixed:-

After opening if the developer find any bug then he fixes it and then he works on the bug

Re-testing:-

When the tester find any bug he assign to developer and developer fixes this bug .After

implementing the bug the developer re-send to the tester for testing then it is called Re-testing .If during the re-testing tester find any bug then he will assign to the developer once again then once again open life cycle will run.

Verification:-

If the tester doesn’t find bug that means application is working properly according the customer requirement then tester will verify it .

Close:-

After verify tester close testing .Application is ready for deploying

Positive Testing?

Ans:- Positive testing is testing techniques used in software testing .

What is difference between test case and test scenario? Most imp

Test case	Test scenario
1 Test case is a detailed document, which provides information about Testing strategy ,Testing process,and expected output	1 Test scenario are those derived from the use case and give the onlie information about what to test
2 These are low level actions	2 These are high level actions
3 It takes more time as compared to test scenario	3 It takes less time as compared to test case
4 The test case work on the how to be tested	4 The test scenario work on the what to be tested
5 In a test case we mainly focus on the document details	5In test scenarios we will focus on thinking and discussing details

Agile Modol

Agile is an iterative and incremental process.

Iterative means same kind of process we repeate again and again in this modol

Incremental we will implement same feature at beginning in software and we keep on adding new module or new feature particular existing the application or software

Agile principle

1> Customer no need to wait for long time

2> We develop, test and release piece of software to the customer with few number of software

3> We can accept requirement changes

There will be good cummunication between customer ,business analyst,Developer &tester

Advantage of Agile modol

1> Requirement changes are allowed in any software of development

2> Release will be very fast(weekly)

3>Customer no need to wait for long time

4> Good cummunication between team

5> It is very easy module to adapt

Disadvantage

1> Less focus on design and documentation since we deliver software very faster.

Principle of Agile methology

1> We will deliver the software with piece of feature or few kind of functionality.

2>Customer no need to wait till complete software developed

3> Some feature or functionality will deliver and tested

Scrum.....

Scrum is a framework through which we build software product by following Agile Principles.

Scrum includes group of people called as Scrum team .Normally contains 5-9 members.

1) Product Owner

2)Scrum Master

3)Developer Team

4)QA Team

Product Owner:-

Define the feature of the product while talking with customer

Prioritize features according to market value

Adjust features and priority every iteration,as needed

Accept or reject work results.

Scrum Master:-

The main role is facilitatitng and driving the agile process.

Scrum master tells the team member how to follow the agile process.

Scrum master makes sure that developer and tester aware the rules of agile process or not.

Scrum master responsible for the agile process that means he knows how to drive the agile process

Developers and QA

Develop will develop the software and Test will test the software

Scrum Terminology……

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User Story…> A Feature/module in a software.It is small requirement

Epic……> Collection of user stories.It is large requirement

Product Backlog…> It is deriverd from requirement Contains list of user stories. Prepared by product owner.

Product backlog is list of user story prepared by product owner from begging the process

Product backlog is a document like excel file ,excel sheet .It is prepared by the product owner.

Sprint/Iteration…..> Period of time to complete the user stories,decided by the product owner and team, usually 2-4 weeks of time.

Sprint planning meeting…..> Meeting conducts with the team to define what can be delivered in the sprint and duration

Sprint backlog…….> List of committed stories It is derived from product backlog it is performed by development team for specific sprint.

Scrum meeting……> Meeting conducted by Scrum Master everyday 15 minutes. Called as scrum call/Standup meeting.In this meeting descuss about the status of project

That means,

What did you do yesterday?

What will you do today?

Are there any blockers in your way?

Sprint restrospective meeting?...>>>>

This is kind of meeting .It conduct after completing every sprint in this meeting we discuss

What went good

What went wronge

What types of problems came into the picture

What will we do in next sprint

In this meeting Scrum master,product owner,dev,Tester are involve

Burn Down Chart...>>>>

Ans:- It shows how much work remaining in the sprint maintained by the scrum master daily.

Story point