**Software Testing Assignment**

# Module–1(Fundamental)

## What is SDLC?

SDLC is Software Development Life cycle. Software development is the process programmers use to build computer programs.

**Definition**:-**SDLC is a structure imposed on the development of a software product that defines the process for Planning, implementation, testing, documentation, deployment and ongoing maintenance & support.**

## What is software testing?

Testing is a process or system which is used to identify characteristics or problems.

**Definition**:-**Software testing is a process used to identify the correctness, completeness, and quality of developed computer software.**

In simple words, testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

## Write SDLC Phases with basic introduction.

1. **Requirement collection:**

During this phase, all the relevant information is collected from the customer to develop a product as per their expectation.

* **Three types of problems arise**
* Lack of clarity
* Requirement confusion
* Requirement amalgamation
* **Types of requirement**
* Functional requirements
* Nonfunctional requirements

**2) Analysis**

Once the requirement gathering is done, an analysis is done to check the feasibility of the development of a product.

**3) Design**

The design phase is a stage where software developers Define the technical details of the product

Design architecture document

**4) Implementation**

Implementation/Coding starts once the developer gets the Design document.

**5) Testing**

Testing starts once the coding is complete and the modules are released for testing. In this phase, the developed software is tested thoroughly and any defects found are assigned to developers to get them fixed.

**6) Maintenance**

* **Three types of maintenance**
* Corrective maintenance
* Adaptive maintenance
* Perfective maintenance

## Explain Phases of the waterfall model

* **Verification Phase**

1. Business requirements
2. System design
3. Architectural design
4. Module design

* **Code Phase**

The Actual coding of the system Modules designed in the Phase is taken up in the coding Phase.

* **Validation Phase**

1. Unit testing
2. Integration testing
3. System Testing
4. Acceptance Testing

## Write Phases of spiral Model

1. Planning
2. Design
3. Construct
4. Evaluation

## What is agile Methodology?

Agile SDLC Model is combination of Iterative & Incremental Process Models with Focus on process adaptability & customer satisfaction by rapid delivery of working software product.

## Write agile manifesto principles

1) Individual Interaction

2) Responding to change

3) Customer collaboration

4) Working software

## Explain working methodology of agile model and also write pros and cons

Agile SDLC model is a combination of iterative & incremental process Models with focus on process adaptability & customer satisfaction by rapid delivery of working software product

**Pros**:

* It is a very realistic approach to software development
* Promotes team work & Cross training
* Resource requirement are minimum
* Suitable for fixed or changing requirement
* Good model for environment that change steadily

**Cons:**

* Not suitable for handling complex dependencies
* More risk of Sustainability, Maintainability and Extensibility
* An Agile Leader & Agile PM Practice is must without which it will not work.
* Transfer of technology to new team members may be quite challenging due to lack of documentation Use case

## What is SRS?

A software requirements specification (SRS) is a complete Description of the behavior of the system to be developed.

## What is OOPS?

Object oriented programming system: Black box Testing

Identifying objects and assigning responsibilities to these object.

## What is basic Concept of OOPS?

* Object
* Class
* Encapsulation
* Inheritance
* Polymorphism
* Abstraction

## What is Object?

Object is an instance of a class to create memory for that class its an one type of class variables.

Due to new keyword & class constructor to create object.

Sys:

Classname Objectname= New constructor();

## What is Class?

Class is a collection of data member (Variables) and member function (Process, Methods) with its behaviors.

SY:

Class Class name

{

Variables

Methods

}

## What is Encapsulation?

Encapsulation: Data hiding: Wrapping up of data in to single unit

Private your data member or member function.

## What is Inheritance?

Properties of parent class extends in to child class

Properties of super class Extends in to sub class.

There are mainly 5 types

1. Single: Only one class extends in to another class
2. Multilevel: Single inheritance having one more another child class
3. Hierarchical: One parent having one or more child
4. Multiple: Java does not support
5. Hybrid: Java does not support

## What is Polymorphism?

Ability to take one name having different forms

Many or multiple forms

* **There are mainly 2 types**.

1) **Compile time** (method Overloading):The Method name should be same in a single class but its behaviors(arguments, Data types) are different

2) **Run time** (method Overriding):the whole signature of the method should be same in a super class as well as in sub class but its behaviors (Body parts) are different.

## Draw Use case on online bill payment system

e Methodology

## Draw use case for online shopping product using COD

## Draw use case on online book shopping

## Draw use case for online shopping product using COD