1. What is SDLC? (Software Development Life Cycle)

* SDLC is a structure imposed on the development of software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance and support.
* Six phases of SDLC process

1) Requirement Collection / Gathering

2) Analysis

3) Design

4) Implementation

5) Testing

6) Maintenance

1. What is agile methodology?

* It is combination of iterative and incremental process models, in which we have to focus on process flexibility and customer satisfaction by rapid delivery of working software product.
* Break the product in to small incremental builds.
* These builds are provide in iterations.
* Each iteration need almost 1 to 3 weeks.

Agile Manifesto Principles

1. Individuals and interactions – in agile development, self-organization and motivation are important, as are interactions like co-location and pair programming.
2. Working software – demo working software is considered the best means of communication with the customer to understand their requirement, instead of just depending on documentation.
3. Customer collaboration – As the requirement cannot be gathered completely in the Beginning of the project due to various factor, continuous customer interaction is very important to get proper product requirement.

1. Responding to change – agile development is focused on quick responses to change and continuous development.

Advantages

* It is very realistic approach to software development.
* Promotes teamwork and cross training.
* Functionality can be developed rapidly and demonstrated.
* Resource requirement are minimum.
* Suitable for fixed or changing requirements.
* Good model for environments that change steadily.
* Little or no planning required.
* Easy to manage.

Disadvantages

* Not suitable for handling complex dependencies.
* More risk of sustainability, maintainability and extensibility.
* An overall plan, an agile leader and agile PM practice is a must without which it will not work.
* Strict delivery management dictates the scope, function to be delivered, and adjustment to meet the deadlines.
* There is very high individual dependency, since there is minimum documentation generated.

1. What is SRS?

Software Requirement Specification

* It is complete description of system behaviour to be developed.
* It include a set of use case that describe all of the interaction that the users will have with the software.
* Use cases are also known as functional requirement.
* The SRS contains both functional and non -functional (or supplementary) requirements.
* The specification of software requirement are described by IEEE 830-1998.

Types of Requirements

* Customer Requirements
* Functional Requirements
* Non-Functional Requirements

1. What is oops?

Object Oriented Programming System:(Black Box Testing)

1. Write Basic Concepts of oops

Object

Class

Encapsulation

Inheritance

Polymorphism

Abstraction

1. What is object?

Instances of class:(an object is a member of given class with specified value rather than variables)

: To create memory for the class

: To access whole the properties of class except private

1. What is class?

It is collection of data member(variable) and member function (process, methods) with its behaviour.

1. What is encapsulation?

Data hiding (wrapping up of data into single unit)

Private your data member and member function

1. What is inheritance.

Properties of parent class derived into child class

Properties of super class extends into sub class

: main purpose is: Reusability, Extensibility

: There are 5 types of

1. Single
2. Multilevel
3. Hierarchical
4. Multiple: java does not support
5. 5) Hybrid: java does not support
6. What is polymorphism?

Ability to take one name having different forms

Many forms or multiple forms

There are 2 types

1. Compile time (Method overloading) (Static Binding)

2) Run time (Method overriding) (Dynamic Binding)

1. What is RDBMS?

RDBMS (Relational Database Management System): The software used to store, manage, query, and retrieve data stored in relational database is called a relational database management system (RDBMS). The RDBMS provides an interface between users and applications and the database.

1. What is SQL?

It is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS)

1. Write SQL Commands.
2. DDL-Data Definition Language.

=: create table, create database, use, truncate etc…

1. DML-Data Manipulation Language.

=: insert, update, delete

1. DCL-Data Control Language.

=: select

1. DQL-Data Query Language.

=: commit, rollback, grant, etc.

1. Draw Usecase on online book shopping.

Open browser computer / Application in mobile phone

Login in to website / web application

Search book of your choice

Select quantity

Tap on buy now button

Enter / select delivery address

Select type of address (home / office)

Enter contact details

Select payment method - COD

Review order summery and placed order

Check order id confirmation and arrival date.

1. Draw Usecase on online bill payment system (paytm)

Open browser computer / Application in mobile phone

Login in to Paytm by scan the code / using login id and password or OTP

Scroll down and go to Recharge & Bill payment menu

Select any bill of service

Select details of service provide (like as state, name)

Enter your service ID and view billing amount

Select pay now

Select payment method and account details

Done the payment and get online receipt same

Logout from web browser / go to application home page

1. Write SDLC phases with basic introduction.
2. Requirement Collection/Gathering

* It Comes from customers side in any format
* It may be Incomplete, incorrect and unclear
* It may be Change frequently or Inadequately captured
* It **Needs validation** during throughout life cycle process, not only at the time of software release.
* **Early prototyping** can help clarify the requirements.

1. Analysis

* Analysis phase defined how will be these **system requirements** will be **accomplished independently.**
* Customer’s problems in the form of **requirements will be solved in this phase**.
* It is the phase in which to prepare documents clear and precise format.
* The deliverable result at the end of this phase is “Software requirement Specification”
* It is Project Strategy Documents in which we can decide **what is to be built.**

1. Design

* Prepare the technical details in form of **architecture document** to guide the developers.
* Clients also final the product design in this phase.
* Developers also defined the technical details of product depending on project.
* Technical details like Screen design, database, sketches, system interface and prototype.
* The architecture team also converts the typical scenarios into a test plan.

1. Implementation

* The Developers **team should build exactly** what has been requested in design phase & the S.R.S from analysis phase.
* The developers’ team builds the components either from sketches or by composition.
* The core development process starts and work is divided in modules/units and actual coding is done.
* Coding is one of the longest phases of SDLC.
* It deals with issues of Quality, Performance, Baseline, Libraries and Debugging.
* Critical error Removal

1. Testing

* Quality is very important
* These is merit in this approach, because it is hard to see one’s own mistake and a fresh eye can find obvious errors much faster than the person who has read & re-read the material many times.
* It is a separate phase which is performed by a different testing team after implementation phase.
* If the team are known as crafts man, then the team should be responsible for establishing high quality across all phases.
* An attitude must be changed to take place guaranteed quality it continuous testing is done
* Regression Testing
* Internal Testing
* Unit Testing
* Application Testing
* Stress Testing

1. Maintenance

* Maintenance is the process of changing system after it has been deployed.
* It is the process of modifying the software product after delivered to the customer or end user.
* To modify and update the software product to correct the bugs and improve the performance.
* It contains configuration and version update, reengineering and redesigning.

1. Explain Phases of the waterfall model.

* Step by step process between various phases. & we can go only forward in this model

Requirement collection

Analysis

Design

Implementation

Testing & Maintenance

1. Write phases of spiral model

Planning,

Risk analysis

Engineering

Customer evaluation

1. What is join?

A JOIN clause is used to combine rows from two or more table, based on related column between them.

1. Write type of joins

Four different types of the JOINs in SQL:

1. INNER JOIN: Return records that have matching values in both tables



1. LEFT (outer) JOIN: Return all records from the left table, and the matched records from the right table



1. RIGHT (outer) JOIN: Return all records from the right table, and the matched records from the left table



1. FULL (outer) JOIN: Return all record when there is a match in either left and right table



1. Draw usecase on online shopping product using COD.

Open browser computer/Application in mobile phone

Login in to website/ web application

Search product

Select quantity

Select size/ colour

Tap on buy now button

Enter / select delivery address

Select type of address (Home/office)

Enter contact details

Select payment method – COD

Review order summery and placed order

Check order id confirmation and arrival date.

1. Draw usecase on online shopping product using payment gateway

Open browser computer/Application in mobile phone

Login in to website/ web application

Search product

Select quantity

Select size/ colour

Tap on buy now button

Enter / select delivery address

Select type of address (Home/office)

Enter contact details

Select payment method by selection of payment gateway (like phone pay, G pay, UPI etc)

Enter payment details

Make payment successful

Review order summery and placed order

Check order id confirmation and arrival date.