

# Module:-1

## SE - overview of it industry

(1.)what is software? what is software engineering?

= Software:-software refers to a set of instruction or programs that tell a computer how to perform specific tasks. it encompasses all types of programs used to operate computers and related devices, including application like word processors, web browsers, and video games, as well as system software.

software engineering:- software engineering is a discipline that involves designing, developing, testing, and maintaining software application or system. it encompasses various principles, method, and tools to efficiently create reliable, scalable, and high-quality software solutions that meet specific user needs. key aspects of software engineering include requirement analysis, software design, programming, testing, deployment, and maintenance.

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(2.)Explain types of software

=1.Application software:-the most frequently used software is Application software. which is a computer software package that performs a specific function for a user or, in some cases, for another application. application can be self-contained.

example:-graphics software, databases, web browsers, software development tools.

2.system software:-system software includes operating systems, device drivers, utilities, and other tools that enable the computer to function.

example:- include windows, macOs, linux, firmware.

3.driver software:-this software is often considered a type of system software.device driver control the devices and peripherals connected to a computer. helping them perform their specific tasks.

example:-USB storage devices, keyboards, headphones, printer.

4.middleware software:-this types of software acts as a bridge between different application and enables communication and management of data in distributed application.

example:-web servers (HTTP server), database management systems (mysql), application server (JBoss).

5.programing software:-these are tools used by developers to create, debug, maintain, and support other software.

example:-visual studio, eclipse, JetBrains intelliJ IDEA.

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(3).what is SDLC? Explain each phase of SDLC

=SDLC stands for software development life cycle. it is a process followed by software development teams to design, develop, and test high-quality software. the SDLC typically includes several phases such as requirements gathering, design, implementation, testing, deployment, and maintenance.

1.planing:-

objective=define the project scope, objectives, and feasibility.

activities=conduct project planning meetings, develop project plans, resource planning, and budget estimation.

deliverables=project plan,feasibility study report, budget and resources allocation.

## 2.requirements gathering and analysis :-

objective=understand and document the software requirements.

activities=conduct interviews, surveys, and workshops with stakeholders to gather requirements.

deliverables=requirements specification document, use cases, user stories, and functional and non functional requirements.

## 3.design:-

objective=transform requirements into a blueprint for building the software.

activities=design system architecture define data models, create interface designs, and develop detailed design specifications.

deliverables=system architecture designs, databases schema, interface design, and detailed design documents.

## 4.implementation:-

objective=convert the design into executable code.

activities=write code bases on the design documents, perform unit testing, integrate code modules, and ensure compliance with coding standards.

deliverables=source code, unit test cases, and documentation.

#### 5.testig:-

objective=insure the software is free of defects and meets the requirements.

activities=develop test plans, create test cases, conduct various testing, and fix defects.

deliverables=test plans, test cases, test results, defect logs, and test summary reports.

#### 6.maintenance:-

objective=provide ongoing support and make necessary enhancements.

activities=monitor the system for issues, provide user support, perform requirements.

deliverables=maintenance logs, updated documentation, patches, and new releases.

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(4,)What is DFD? Create a DFD diagramon Flipkart

= DFD (Data Flow Diagram) shows how data moves through a system.

➤ Example of Flipkart DFD Diagram:-

Flipkart DFD:-

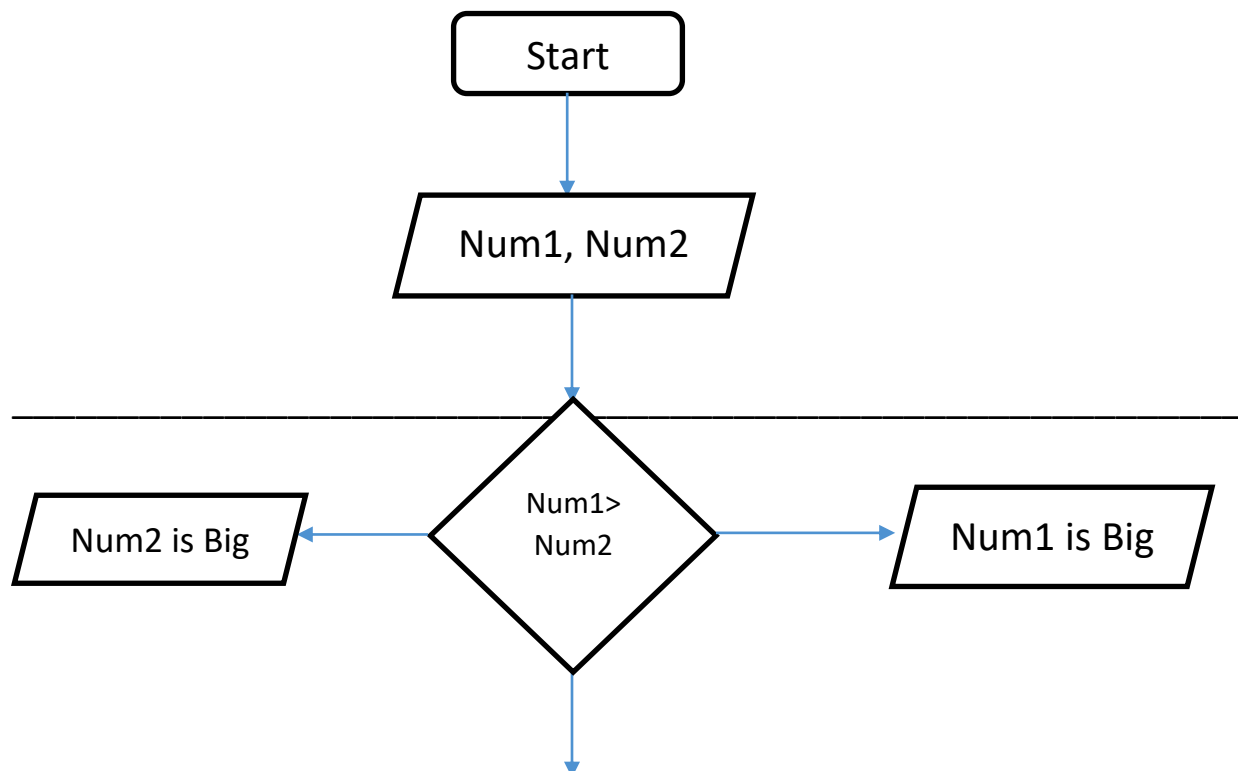




5.)What is Flow chart? Create a flowchart to make addition of two numbers

= A flowchart is a type of diagram that represents a workflow or process. It displays step by step solutions to a problem, algorithm, or process.

→Flow chart of two No addition



End

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(6.) What is Use case Diagram? Create a use-case on bill payment on paytm.

= Actors :- user who interact with the system.

Use case :- service provided by the system.

System boundary :- scope of the system.

Relation :- relation between entities and user or themselves.

- |        |                         |
|--------|-------------------------|
|        | 1.)registration         |
|        | 2.)login                |
|        | 3.)select bill type     |
| User:- | 4.)enter bill details   |
|        | 5.)payment gateway      |
|        | 6.)payment details      |
|        | 7.)payment processing   |
|        | 8.)payment confirmation |