# ***Software Engineering Assignment***

## *Module: 1*

## *SE------ 0verview of IT industry*

***1.) what is software? What is software engineering? Ans:***

***Software:***

→ ***A software is a set of instruction, data or programs Used to operate computers and execute specific tasks***

→ ***Software is a generic used to refer to applications, scripts and program that run on a device***

***Software engineering:***

→ ***Software engineering is the branch of computer science that deals with the design,***

*development, testing and maintaining software*

→ *Software is a collection of programs is. And that program is developed by software engineers*

→ *The code of the program is written in many languages such as C++, java, python, Django, etc.*

*2.) Explain types of software?*

*Ans: there are two main categories of software are application software and system software.*

*Application software:*

→ *An application software is a type of computer program that performs a specific personal, educational, and business function.*

→ *Application software programs are created to help with a wide range of tasks. Here are few examples:*

- *Information on data management.*
- *Development of visuals and video.*
- *Management of accounting, finance, and payroll.*

- ***Management of business process.***
- ***Emails, text messaging, audio, and video conferencing, and cooperation are all points***

***System software:***

→ ***Software that provides a platform for other software. Some examples can be operating systems, antivirus software, disk formatting software, computer language, etc.***

→ ***System software is a type of computer program that is designed to run a computer's hardware and application programs.***

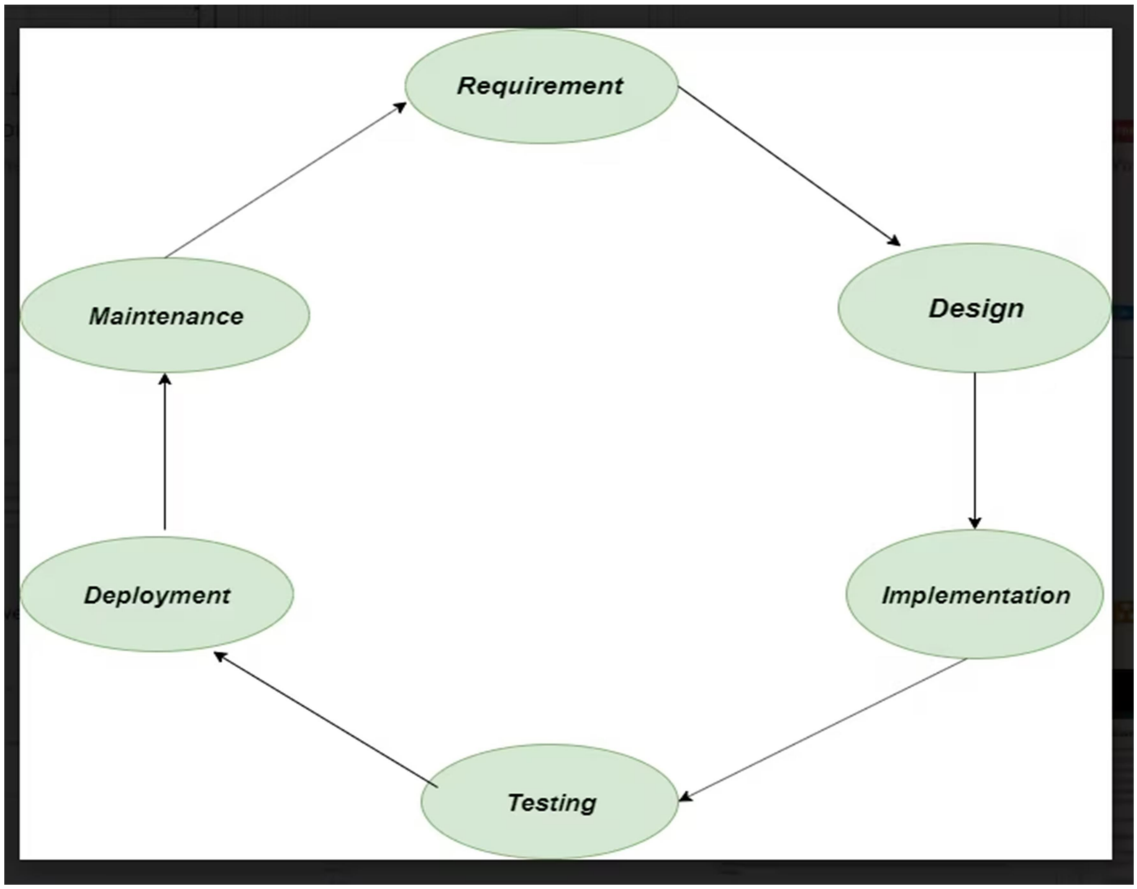
- ***Operating system (OS): windows, Linux, macOS, etc.***
- ***Device drivers: software that enables communication between hardware and OS.***
- ***Firmware: pre-installed low-level software that controls device basic functions.***
- ***Utility software: tools for system maintenance and optimization***
- ***Boot leaders: software that initializes the OS during startup.***

***3.) What is SDLC? Explain each phase of SDLC?***

***Ans:***

→ ***Software development life cycle (SDLC) is a structured process that is used to design, develop, and test good quality software.***

→ ***SDLC is a methodology that defines the entire procedure of software development step by step***




→ ***Phases of SDLC:***

- ***Requirement gathering and analysis: this phase involves gathering information about the software***

*requirements from stakeholders, such as customers, end-users, and business analysts.*

- *Design: in this phase, the software design is created, which includes the overall architecture of the software, data structure, and interface.*
- *It has two steps:*

*1.) High-level design (HLD): it gives the architecture of the software products*

*2.) low-level design (LLD): it describes how each and every feature in the product should work and every component.*

- *Implementation: the design is then implemented in code, usually in several iterations, and this phase is also called Development.*
- *Testing: The software is thoroughly tested to ensure that it meets the requirements and works correctly.*
- *Deployment: After successful testing, the software is deployed to a production environment and made available to end-users.*
- *Maintenance: This phase includes ongoing support, bug fixes, and updates to the software.*

*4.) What is DFD? Create a DFD diagram on Flipkart?*

*Ans: DFD stands for Data Flow Diagram, which is a graphical representation of the flow of data through a system or process. It illustrates how data is input into the system, processed, and outputted to other components.*

*Creating a DFD for Flipkart, an e-commerce platform, would involve identifying the main processes and data flows within the system. Here's a simplified DFD diagram for Flipkart:*

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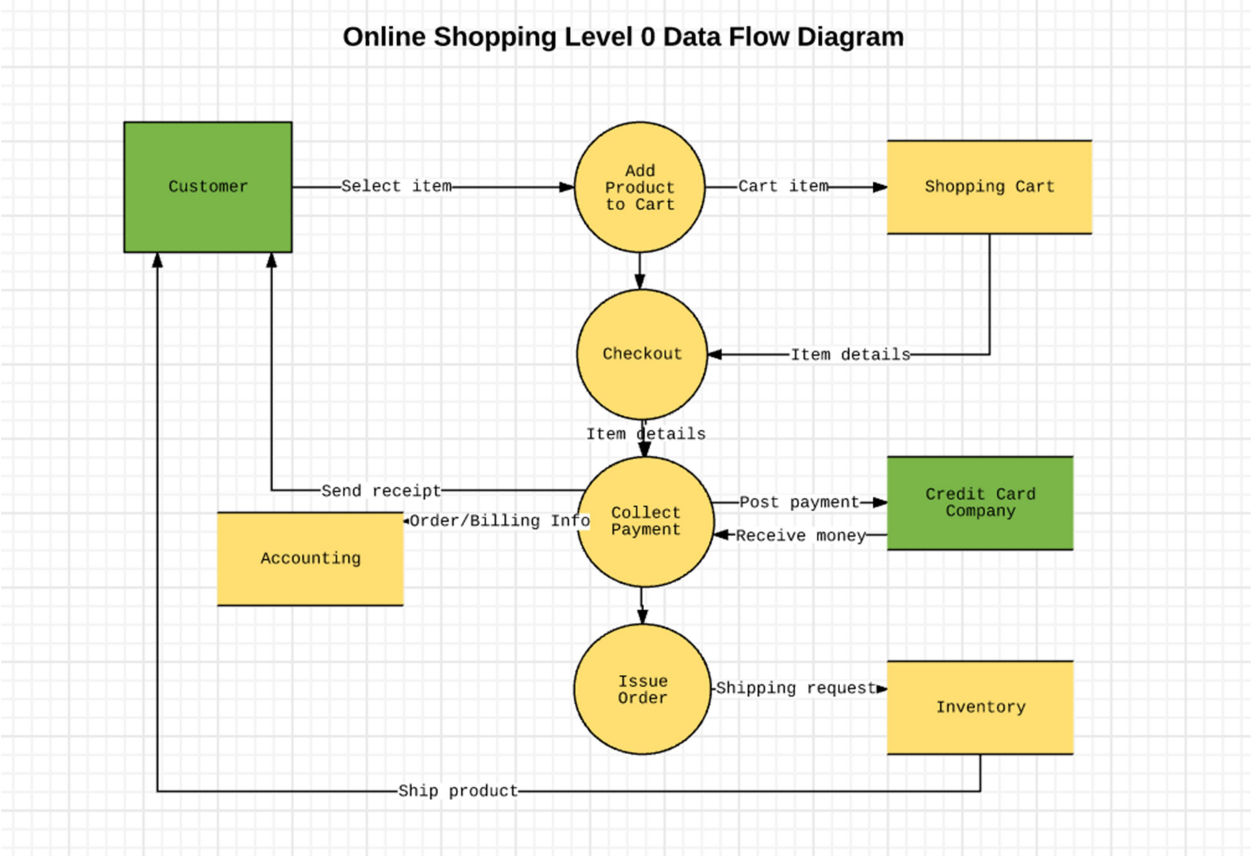



*In this diagram:*

- → *Customer: Initiates the process by browsing products, adding them to the cart, and placing orders.*
- → *Flipkart: Manages the overall system.*

→ *Product Database: Stores information about the products available on Flipkart.*

→ *Payment Gateway: Handles payment processing for orders.*

→ *Order Processing: Manages order fulfillment, including processing orders and updating order status.*

→ *Shipping Service: Manages the shipment of orders to customers.*

→ *Inventory Management: Tracks inventory levels and updates product availability.*

→ *Customer Support: Provides support to customers regarding their orders, products, or other inquiries.*

*These components interact with each other through data flows, representing the flow of information and data between them.*

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

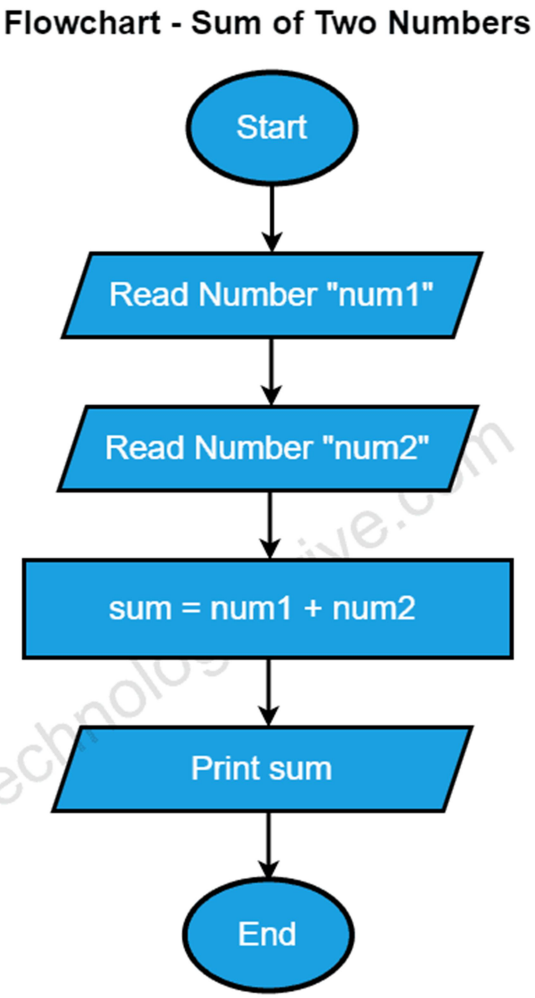
→ *A flowchart is a type of diagram that represents a workflow or process. A flowchart can*

*also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task.*

→ *A flowchart (or flow chart) is a diagram that shows the steps in a process.*

→ *Flow charts are often used for visualizing the sequence of action or information needed for training, documenting, planning, and decision-making.*

→ *They often use symbols, shapes, and arrows to illustrate how one step leads to another.*






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

→ ***A use case is a written description of how users will perform tasks on your website. It outlines, from***

*a user's point of view, a system's behavior as it responds to a request. Each use case is represented as a sequence of simple Steps, beginning with a user's goal and ending when that goal is fulfilled.*

→ *There are various components of the basic model:*

*1.) Actor*

*2.) Use case*

*3.) Associations*


paytm
bill payment
electricity, credit card ,mobile recharge.
credit card / debit card / paytm wallet
choose payment method
enter card details
bill payment done
confirmation in 3hours
customer
actor