Assignment – 1

Module: 1 [Overview of IT Industry]

Q-1. What is Software? What is Software Engineering?

Ans.

A **software** is a set of instructions/programs which tells a system to perform some specific task/tasks.

Software Engineering is the branch of computer which deals with the entire process of developing a software – from planning till the maintenance which includes: planning, designing, development, testing and maintenance of the software.

Q-2. Explain types of Software.

Ans.

(i) Application Software

Application software is software that performs a specific function for a user or another application. Modern applications include Microsoft office, graphic software, database, web browsers, etc.

(ii) System Software

System software manages a computer's hardware and software, controls its operations, and provides a platform for other software. Example - Operating System.

(iii) Driver Software

Driver Software are software that control devices connected to a computer, enabling them to perform some tasks. Every device needs at least one driver to function.

(iv) Programming Software

Programmers use programming software to write code. This software helps them develop, test, and debug other programs.

Examples - Compilers, Debuggers, Interpreters, etc.

(v) Middleware

Middleware is software that acts as a mediator between different types of software or between application and system software. It allows communication between various applications, such as Microsoft Windows with Excel, and Word.

Q-3. What is SDLC? Explain each phase of SDLC.

Ans.

SDLC is a process followed for a software project, within a IT organization. It consists of a detailed plan describing how to develop, maintain, alter or enhance specific software. The SDLC defines a method for improving the quality of software and the overall development process.

Phases of SDLC :

1. **Requirement Analysis and Planning**
   The requirement analysis is an important stage in the Software Development Life Cycle (SDLC), conducted by team members with input from the client and industry experts. This information is used to plan the project approach, conduct product feasibility studies, and plan quality assurance requirements.

2. **Designing**
   Design involves utilizing the requirements as input and determining the software architecture for system development implementation.

3. **Development**
   During this stage, developers begin actual development and build the product, generating programming. Various high-level programming languages like C, C++, Pascal, Java, and PHP are used, with the chosen language based on the software type.

4. **Testing**
   This stage refers to the testing only stage of the product where product defects are reported, tracked, fixed and retested, until the product reaches the quality standards defined in the SRS document.

5. **Deploy**
   In this phase, we deploy the software for customers to use.

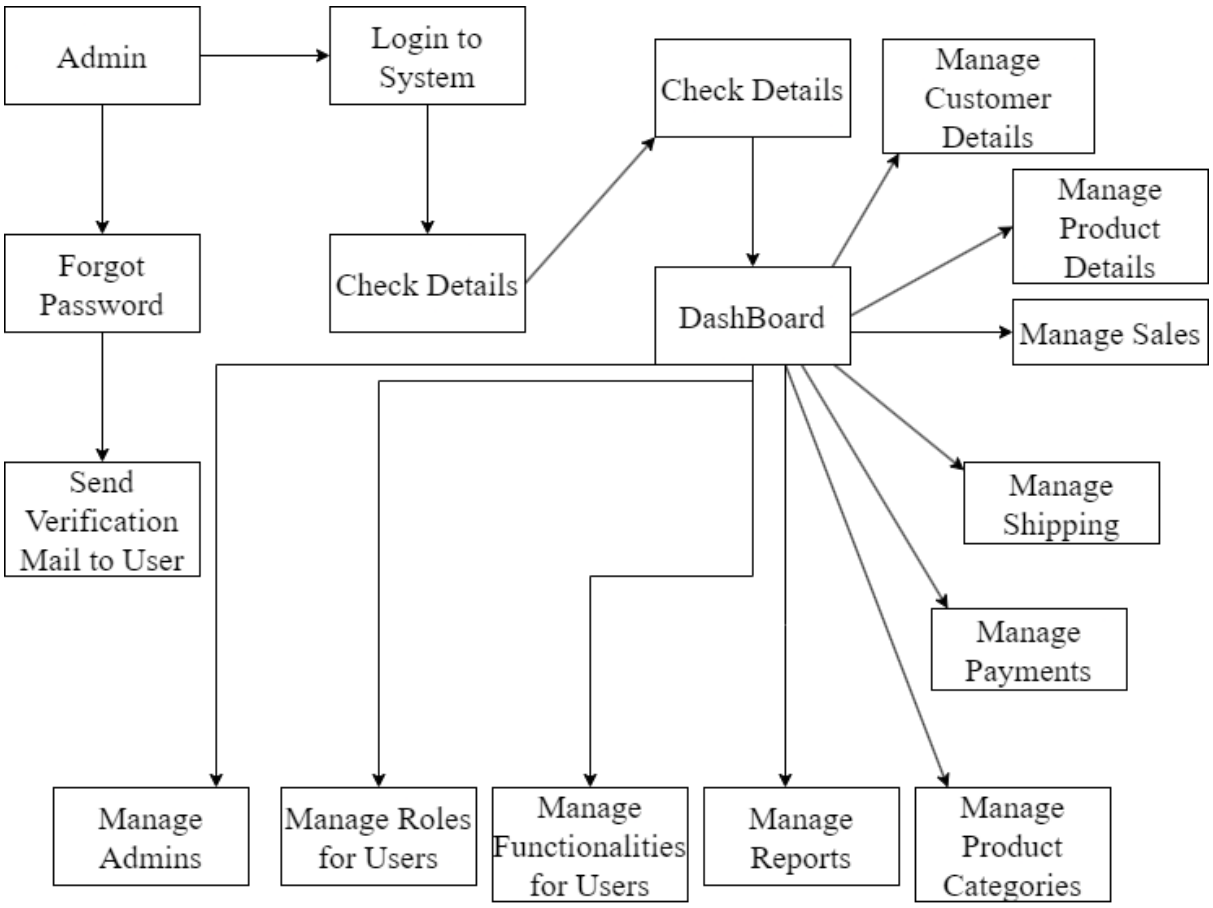
6. **Maintenance**
   This is the final stage which is continuous and which includes maintain the software after deployment, bug fixes, etc.

Q-4. What is DFD? Create a DFD diagram on Flipkart.

Ans.

DFD stand for Data Flow Diagrams.

A data-flow diagram (DFD) is a visual representation of data flow through a software or a website. It outlines the outputs and inputs of each entity and the process, without any control flow or decision rules.



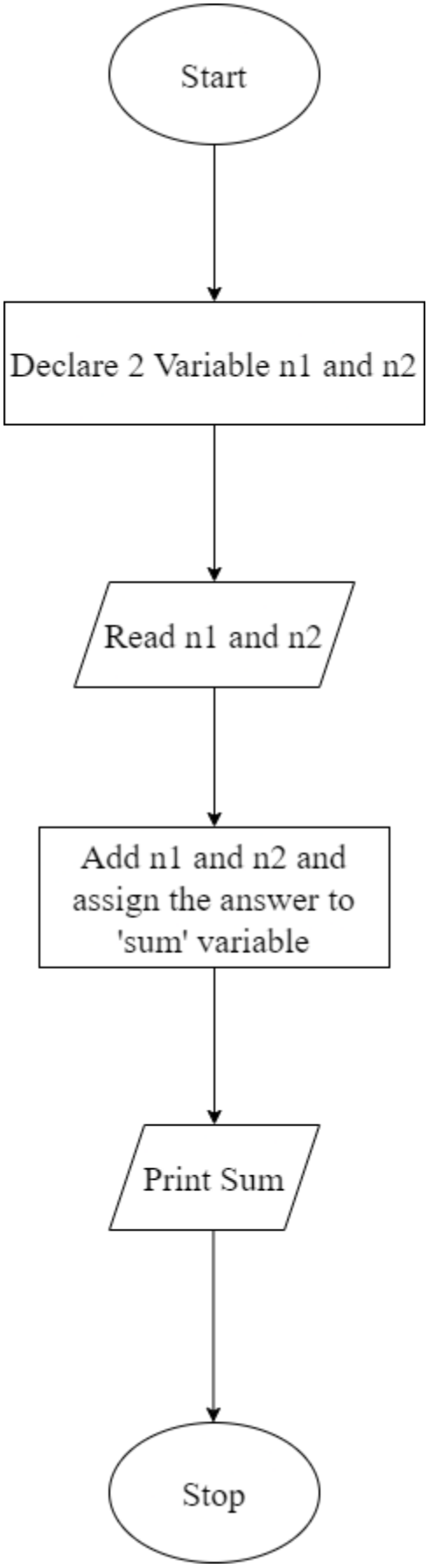
DFD For Flipkart

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

Ans.

A Flowchart is a graphical representation of algorithms. They are used for better understanding of data visually.

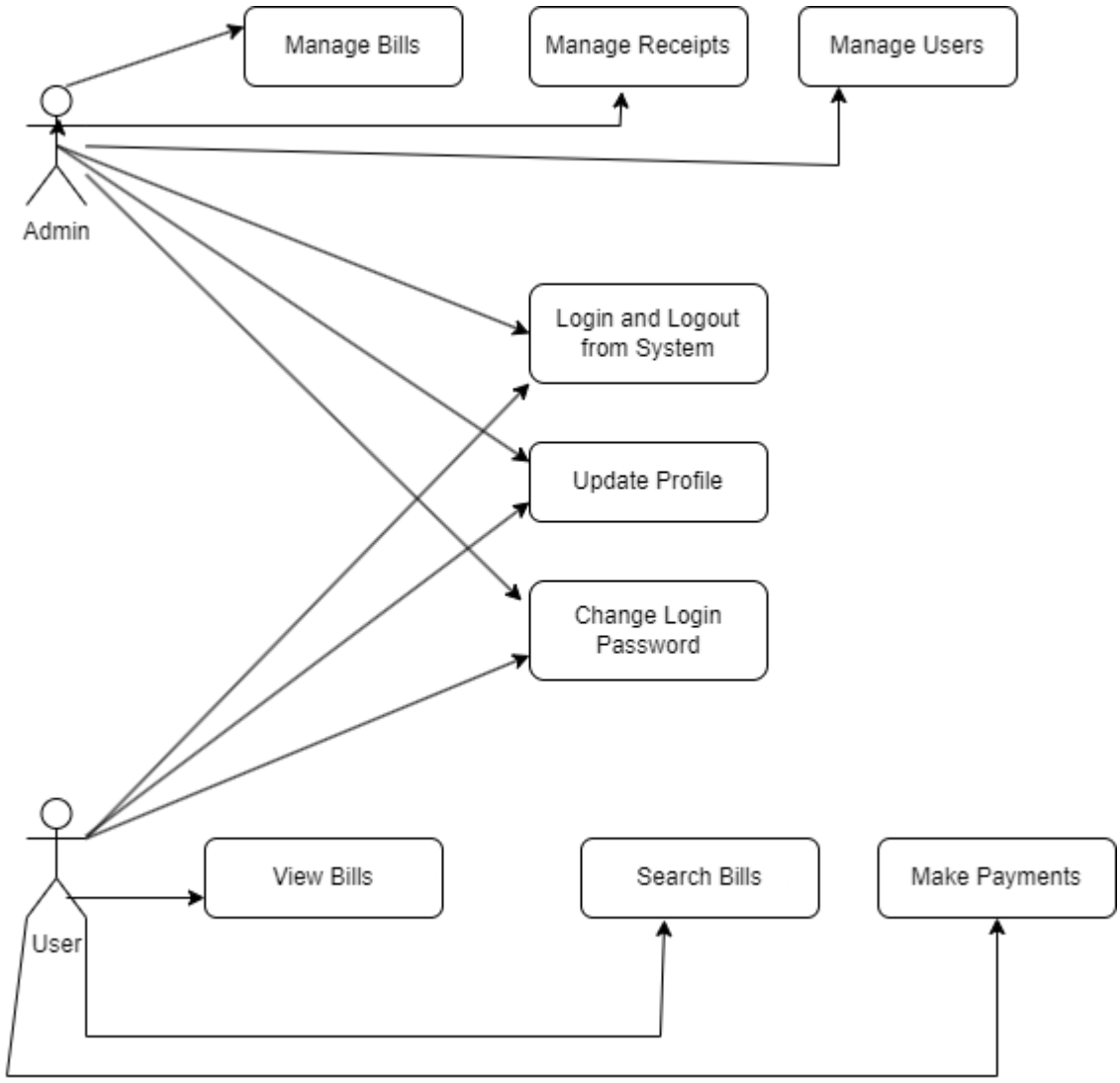
Flowchart for addition of two numbers :


Start
Declare 2 Variable n1 and n2
Read n1 and n2
Add n1 and n2 and assign the answer to 'sum' variable
Print Sum
Stop

Q-5. What is Use case Diagram? Create a use-case on bill payment on Paytm.

Ans.

A Use Case Diagram provides a visual representation of how users interact with a system. It serves as a blueprint for understanding the functioning of a system.



Use Case Diagram for Paytm