Module - 1

SE - Overview of IT Industry

(1) What is software? What is software engineering?

Ans: Software: Software is a set of instructions, data or programs used to operate computers and execute specific tasks.

Software Engineering: Software engineering is the branch of computer science that deals with the design, development, testing, and maintenance of software applications.

→ Software Engineering is the process of designing, developing, testing and maintaing software.

(2) Explain types of software.

Ans: Types of software:

(1) Application Software
(2) System Software
(3) Driver Software
(4) Middleware Software
(5) Programming Software

(1) Application Software:

*) Application software, also known as apps, are programs that perform specific tasks or functions to help users accomplish a particular goal or set of goals.

*) They are designed to interact with the user and provide a specific service or functionally.

*) Ex: Microsoft office (Word, Powepoint), Web browsers (Google Chrome), Paint etc...

(2) System Software:

*) System software, also known as operating system software, manages and controls a computer's hardware components and provides a platform for running application software.

*) It acts as an intermediary between the computer hardware and the user, controlling the allocation of system resources.

*) Ex: Notepad, Calculator, My Files, etc...

(3) Driver Software:

*) Allow computer hardware devices to communicate with the operating system and other Software.

*) Acts as a translator between the device and the OS, enabling the device to function properly.

*) Ex: Audio driver, Video driver, etc..

(4) Middleware Software:
* Acts as a bridge between different software applications, systems or services.
* Enables communication, data exchange, and integration between them.
* Exe: Database middleware, etc...

(5) Programming Software:
* Also known as development software or coding tools.
* Used to create, write, test and debug software programs.
* Exe: Notepad ++, Eclipse, Visual Studio, etc...

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

Ans: SDLC: A framework that outlines the stages involved in planning, creating, testing, and delivering software applications.
* Phases of SDLC are:
1) Planning
2) Analysis
3) Designing
4) Implementation
5) Testing
6) Maintenance.

1) Planning:
* Define project scope, goals, and deliverables.
* Determine budget and feasibility.
* Create a rough estimate of the projet. plan.

(2) Analysis:
* Break down high-level requirements into smaller components.
* Identify potential risks and opportunities.

3) Designing:
* Create a detailed design of the system architecture and components.
* Develop a user interface (UI) and user experience (UX) design.

4) Implementation:
* Write clean, efficient, and well-documented code.
* Develop the software application according to the design specifications.

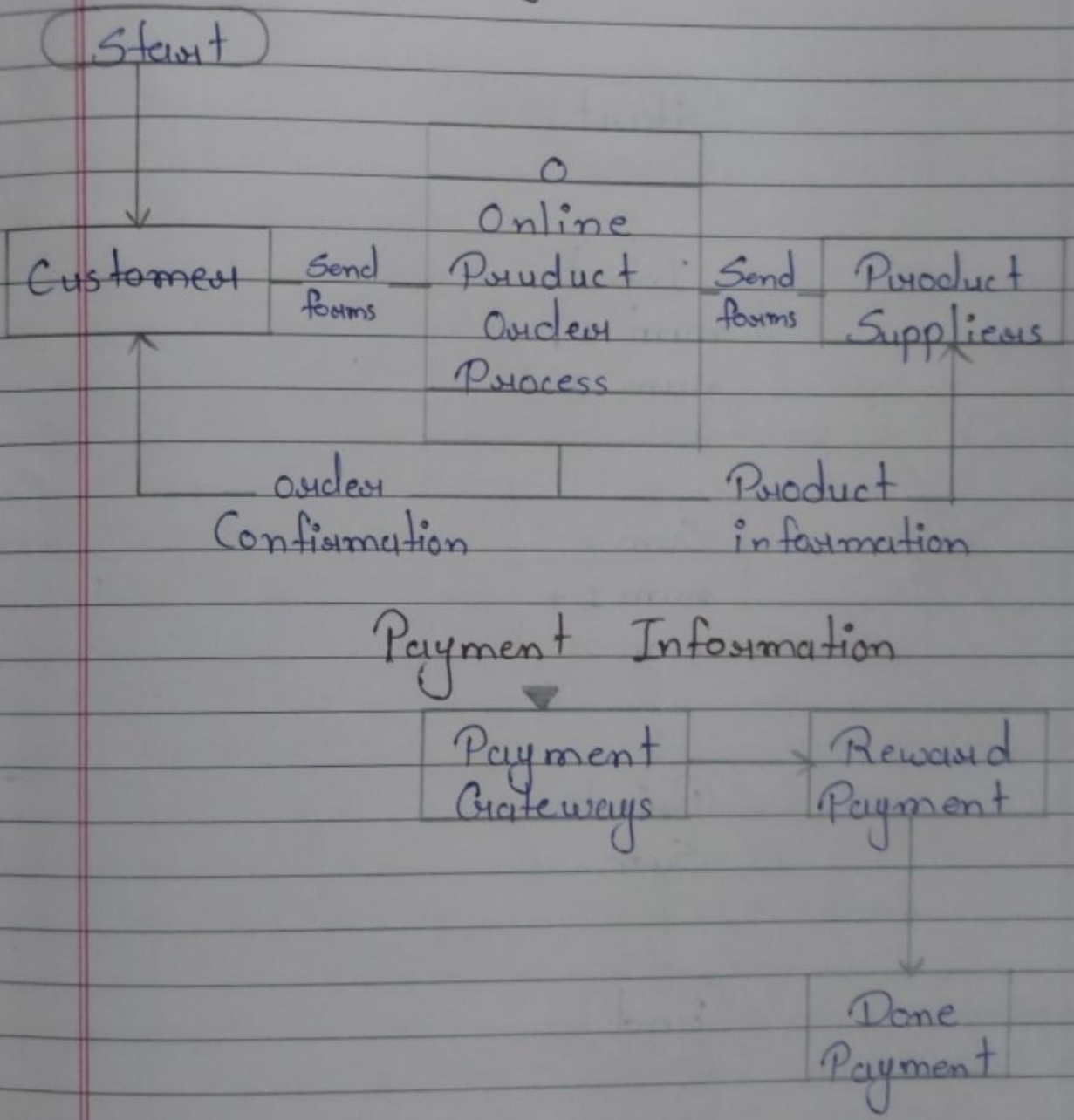
5) Testing:
* Plan and excute various types of testing.
* Indentify and report defects or issues found during testing.

6) Maintenence:
* Provide ongoing support and maintenence to the software application.
* Fix defects and issues reports by users.

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

Ans: DFD : Also known as Data Flow Diagram. Data flow diagrams are used to graphically represent the flow of data in a buisness information system.

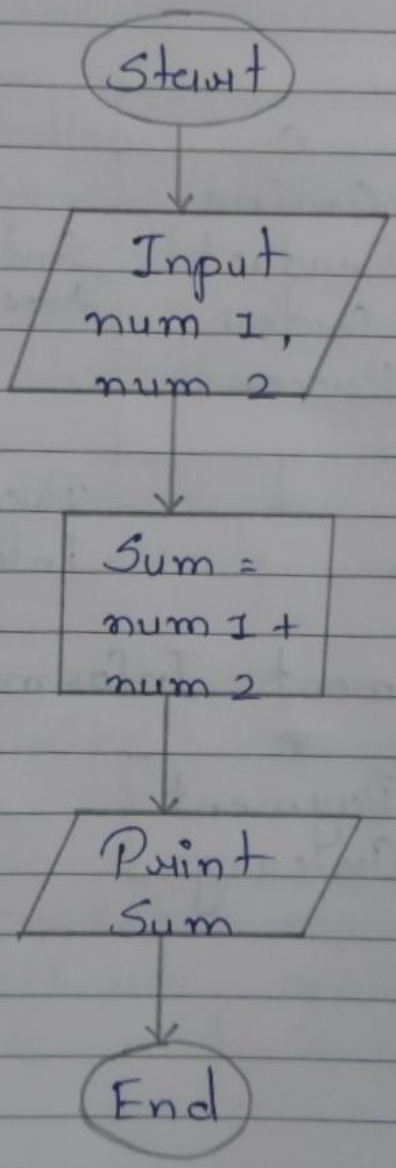
Diagram



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

Ans: Flowcharts are nothing but the graphical representation of the data or the algorithm for a better understanding of the code visually.

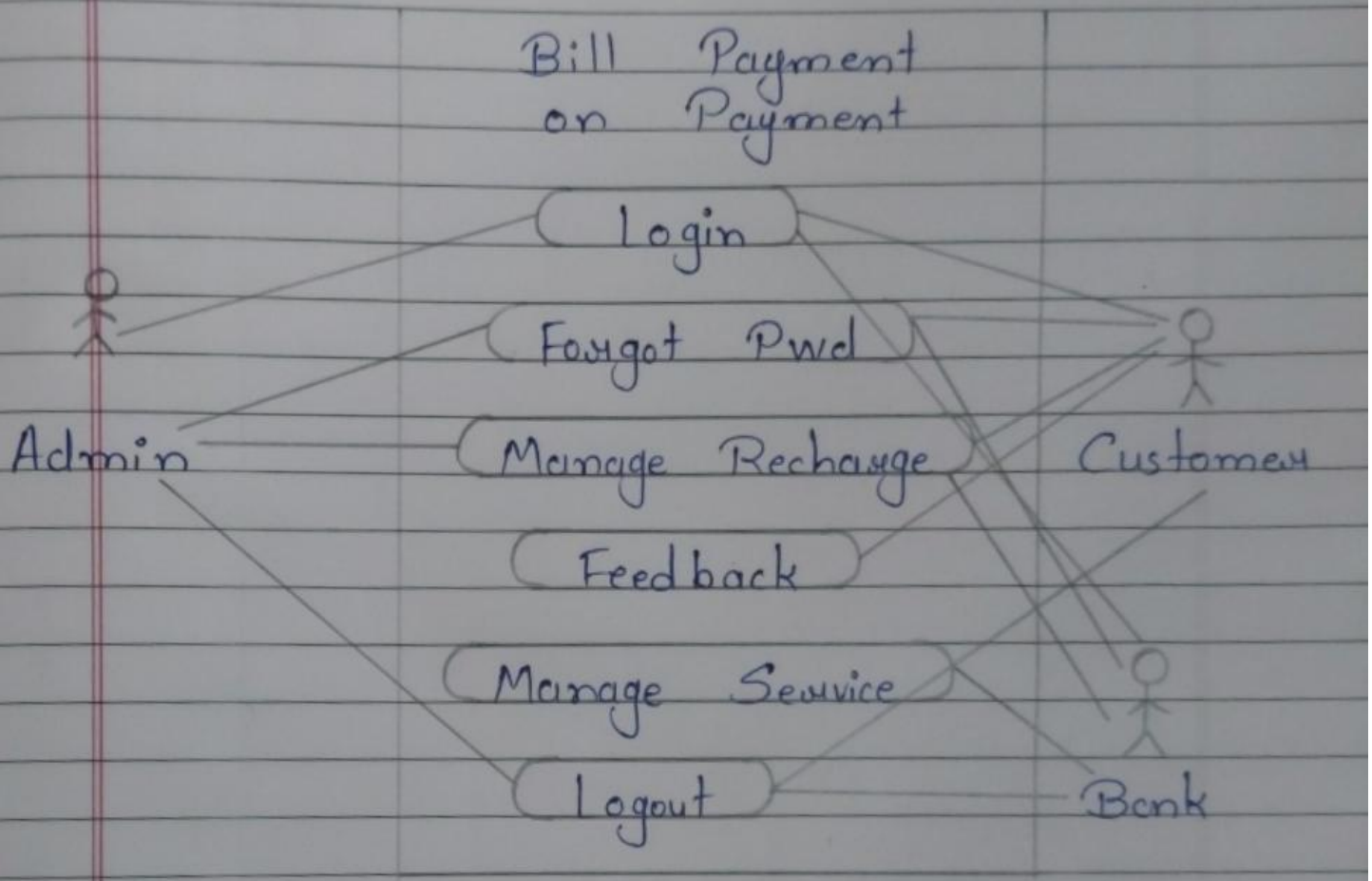
Flowchart



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

Ans: A Use Case Diagram is a vital tool in system design, it provides a visual representation of how users interact with a system.

Use case Diagram



Actor = Admin, Customer, Bank

Use case = Log in, forgot PWd, manage pay amount, manage recharge, feedback, manage service, Logout.