Level 1

Software Engineering Assignment

MODULE:1

SE- Overview of IT Industry

1. What is software? What is software engineering?

Ans: **Software:** Software is a collection of programs, procedures, and related data that instruct a computer to perform specific tasks. It can be categorized into system software and application software.

Software Engineering: Software Engineering is a disciplined approach to the development, operation, and maintenance of software. It applies engineering principles to software to ensure reliability, scalability, and efficiency.

2. Explain types of software

Ans:

1. System Software: Provides a platform to run application software (e.g., Operating Systems, Compilers).

2. Application Software: End-user programs designed for specific tasks (e.g., MS Office, Browsers).

3. Utility Software: Provides tools for maintenance and optimization (e.g., Antivirus, File management).

4. Middleware: Acts as a bridge between different software applications or between OS and apps.

3. What is SDLC? Explain each phase of SDLC

Ans: **SDLC (Software Development Life Cycle):** It is a systematic process for planning, developing, testing, deploying, and maintaining software systems.

Phases:

1. Requirement Analysis

- Collect user needs and expectations.

- Output: Software Requirement Specification (SRS).

2. System Design

- Create system architecture and detailed design.
- Output: Design documents, ER diagrams, UI mockups.

3. Implementation (Coding)

- Developers write the actual program code.

- Output: Source code.

4. Testing

- Verify and validate the software for defects.

- Output: Test cases, bug reports.

5. Deployment

- Install software for users and make it operational.
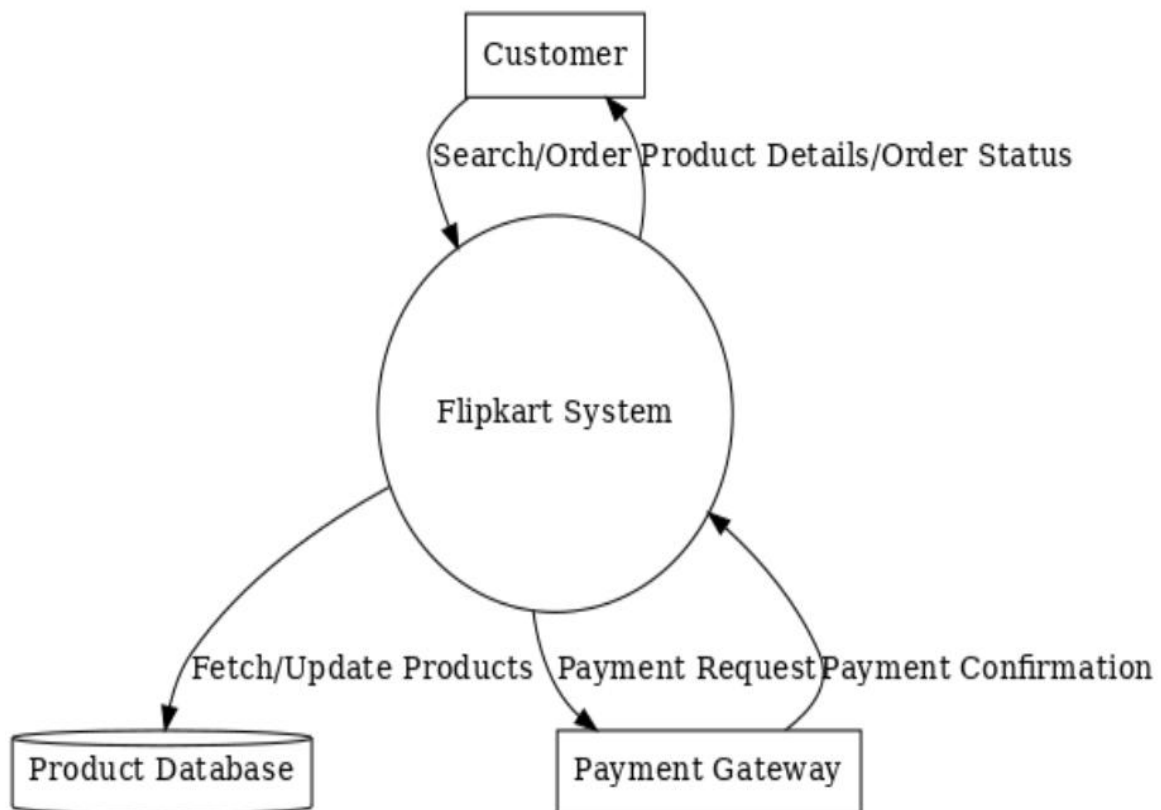
- Output: Working software product.

6.Maintenance

- Fix bugs, release updates, and improve features.

- Output: Updated versions, patches.

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

Ans: **DFD (Data Flow Diagram):** A DFD is a graphical representation that shows how data flows within a system, highlighting processes, data stores, and external entities.
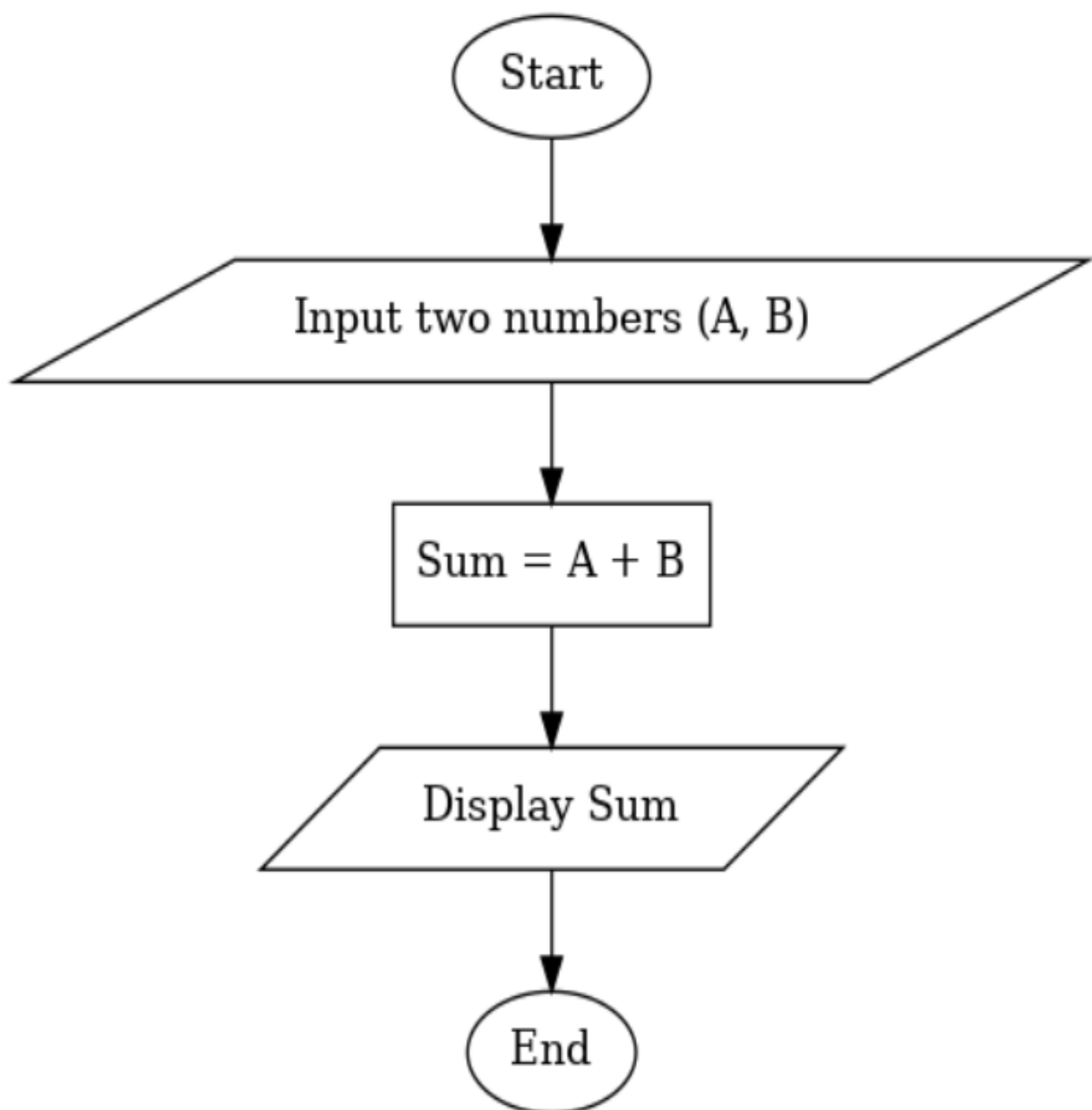
DFD Diagram on Flipkart:

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

Ans: **Flowchart:** A flowchart is a diagrammatic representation of an algorithm, process, or workflow using standardized symbols like ovals, rectangles, and diamonds.

Flowchart of Addition of two numbers:

```
            ┌─────────┐
            │  Start  │
            └────┬────┘
                 │
                 ▼
    ╱─────────────────────────────╲
    │  Input two numbers (A, B)    │
    ╲─────────────────────────────╱
                 │
                 ▼
          ┌──────────────┐
          │  Sum = A + B │
          └──────┬───────┘
                 │
                 ▼
        ╱──────────────────╲
        │   Display Sum     │
        ╲──────────────────╱
                 │
                 ▼
            ┌─────────┐
            │   End   │
            └─────────┘
```

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

Ans: **Use Case Diagram:** A use case diagram is a visual representation of how users (actors) interact with a system to achieve specific goals.

Use-Case Diagram: