Q1. What is software? what is software engineering?

Ans =

software

software refers to a set of instructions or programs that tell a computer what to do it encompasses everything from operating systems and applications to games and utilities.

Software engineering

Software engineering on the other hand is the systematic applications of engineering approaches to the developments, operations, and maintenance of software. It involves designing, building, and maintaining software systems in a structured and disciplined manner to ensure they meet quality, performance, and reliability requirements.

Q2. Explain types of software

Ans =

Software has various types based on its functionality and purposes

Here are some common types of software:

1. **APPLICATION SOFTWARE**
   Application software refers to programs and software applications designed to perform specific tasks or functions for end-users. Unlike system software, which manages computer hardware and provides a platform for running applications, application software is directly used by individual or organization to accomplish various purposes.

2. **PROGGRAMMING SOFTWARE**
   Programming software provides tools and environments for programmers to write, edit, debug, and test software code. These tools are essential for software development and play a crucial role in the creation of various types of software applications.

3. **SYSTEM SOFTWARE**
   System software is a type of software that manages and controls computer hardware, providing a platform for running application software and enabling communication between hardware components. It includes operating system, device drives, firmware, and utility programs.

4. **DRIVER SOFTWARE**
   Driver software, often referred to simply as drivers, are specialized programs that enabled communication between the operation system and hardware devices attached to a computer. These drivers serve as intermediaries, allowing the operation system to send commands and receive data from hardware components such as printers, graphics cards, network adapters, sound cards and storage device.

Q3. What is SDLC? Explain each phase of SDLC

ANS=

SDLC stands for software de development life cycle. It is a systematic process used by software developers to design, test and deploy software applications. The SDLC consists of several phases, each with its own set of activities and deliverables.

Here is an explanation of each phase:

1. **PLANNING**
   In this initial phase, project stakeholders define the scope, objectives, and requirements of the software project. Key activities include conducting feasibility studies, defining project goals, creating a project plan, feasibility reports, and project schedules.

2. **REQUREMENTS GATHERING**
   During this phase, developers gather detailed requirements for the software based on input from stakeholders, end-users, and domain experts. Requirements may include functional requirements (what the software should do) and non-functional requirements. Techniques such as interviews, surveys, and workshops are used to elicit requirements.

3. **DESIGN**
   In this phase, the system architecture and design are developed based on the requirements gathered in the previous phase. Design activities include defining system architecture, data models, user interfaces, and software components/modules. Design decisions are documented in design documents, including system architecture diagrams, data flow diagrams, and interface mock-ups.

4. **IMPLEMENTATION**
   This phase involves the actual coding or programming of the software based on the design specifications. Developers write code according to programming languages and frameworks chosen for the project. They also perform unit testing to ensure that individual components/modules function correctly. Deliverables include source code files, unit test cases, and code documentation.

5. **TESTING**
   In the testing phase, the software is thoroughly tested to identify and fix defects or bugs. Testing activities include unit testing, integration testing, system testing, and user acceptance testing (UAT). Testers verify that the software meets functional and non-functional requirements and behaves as expected in different scenarios. Test plans, test cases, and defect reports are common deliverables.

6. **DEPLOYMENT**
   Once the software has been tested and approved, it is deployed to the production environment or released to end-users. This may involve installing the software on users'

computers, servers, or mobile devices, configuring settings, and providing user training and documentation.

7. MAINTENANCE

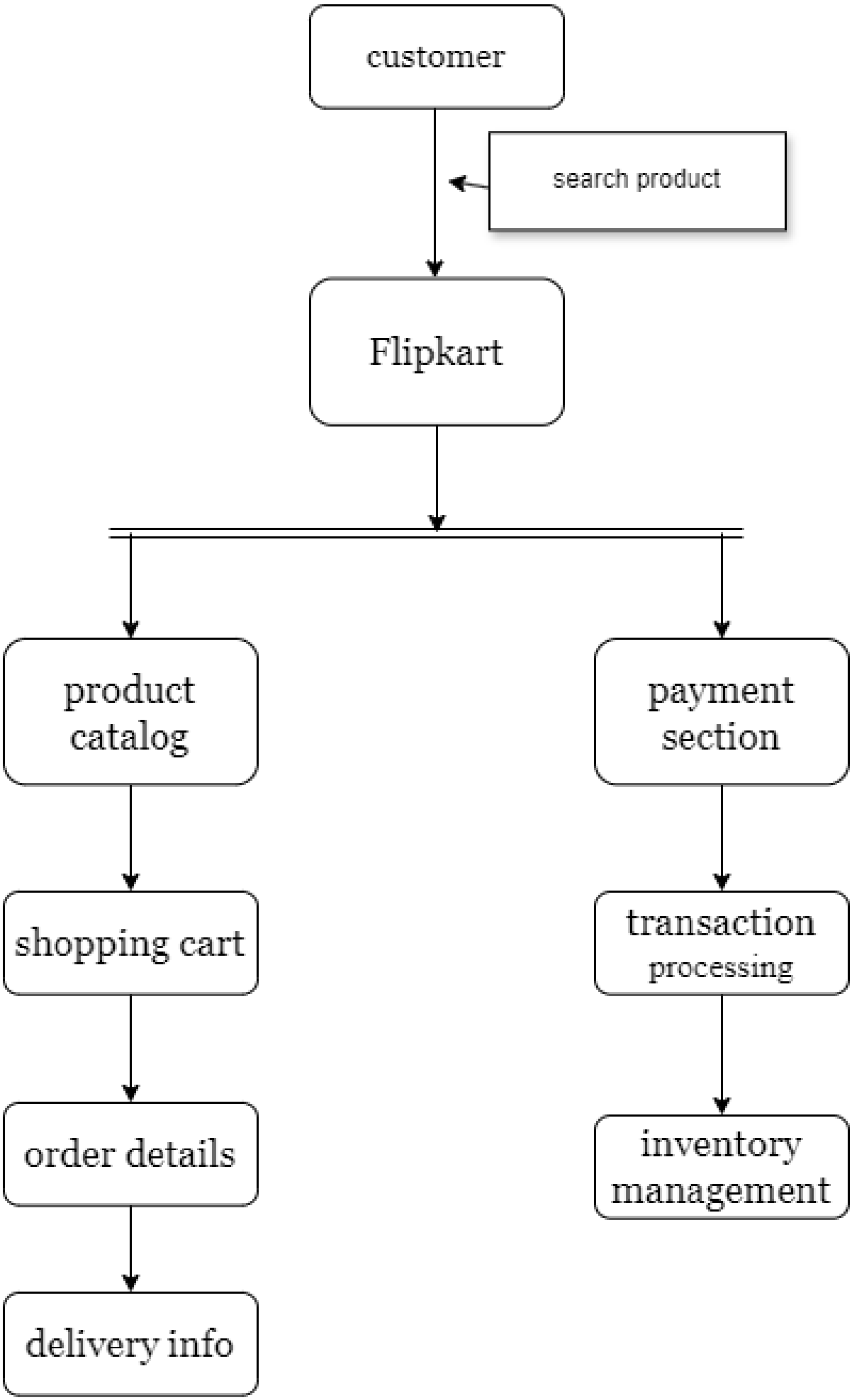
The maintenance phase involves ongoing support and maintenance of the software after it has been deployed. This includes addressing user feedback, fixing bugs, implementing enhancements or updates, and ensuring the software remains compatible with changing technology environments.

Q4. What is DFD? Create a DFD diagram on Flipkart

Ans=

A Data Flow Diagram (DFD) is a graphical representation of the flow of data within a system. It illustrates how data moves between processes, data stores, and external entities.

Flipkart data flow diagram added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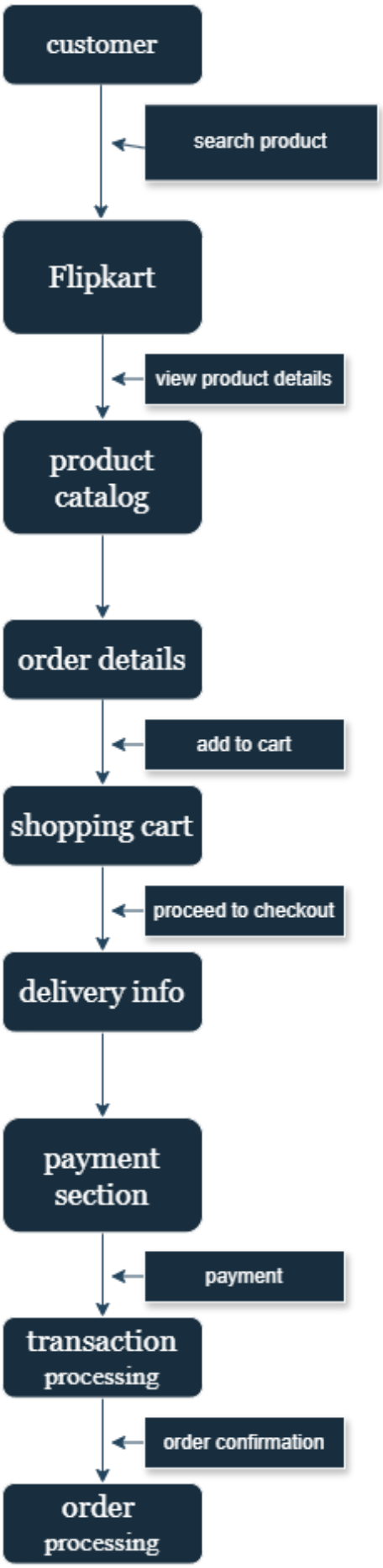
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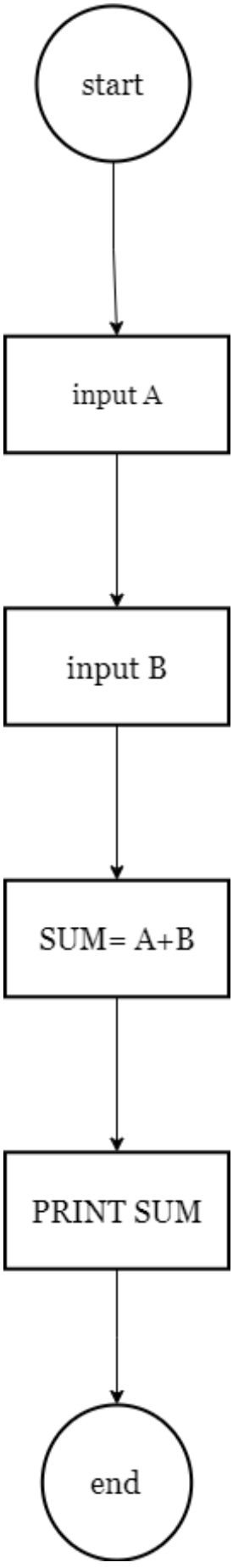
Q5. What is Flow chart? create a flowchart to make addition of two numbers

Ans=

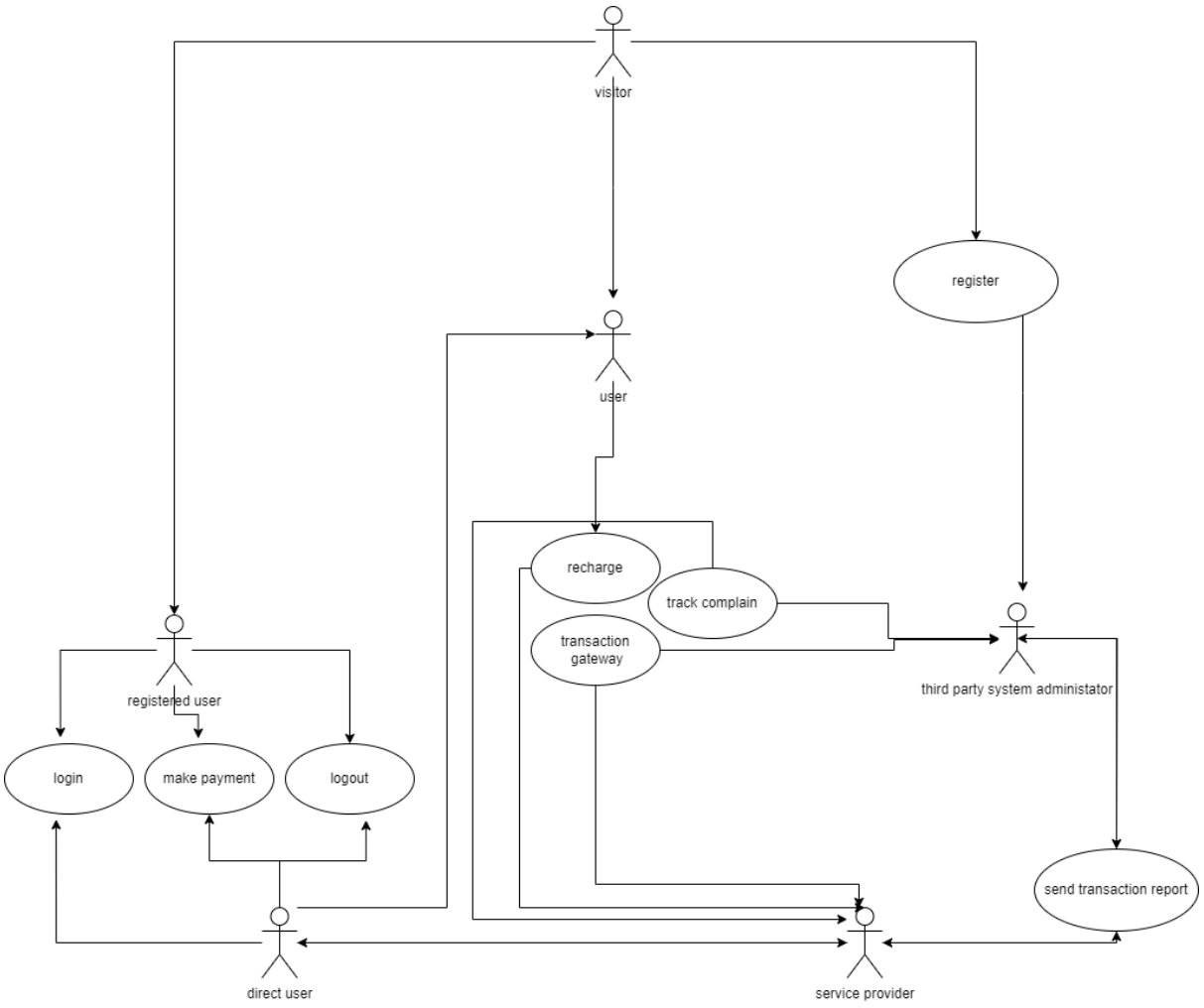
A flowchart is a diagram that depicts a process, system, or computer algorithm. They are widely used in multiple fields to document, study, plan, improve and communicate often complex processes in clear, easy-to-understand diagrams.


start
input A
input B
SUM= A+B
PRINT SUM
end

Q6. What is use case Diagram? Create a use-case on bill payment on Paytm.

Ans=

use case diagram is a graphical representation of the interactions between users and a system to achieve specific goals or tasks. It illustrates the functionalities of a system from the perspective of external users.



Instagram Activity Diagram