MODULE : 1 (SDLC)

1. What is software? what is software engineering?

   ANS :

   software: software is a set of program, set of instructions
   Used to execute specific task or functions.

   - in other words software, instructions that tell a computer what to do.
   - commonly refer to applications.
   - two types of software: application software

     system software

     driver software

     middleware software

     programming software

   software engineering : software engineering is the process of designing , developing , testing and maintaining software.

   - it is a systematic and disciplined approach to software development that aims to create high quality ,reliable
   - software engineering includes variety of techniques, tools and including requirements analysis , design , testing and maintenance.
   - To manage large software
   - For better quality management
   - For greater scalability

2. Explain types of software.

ANS : two types of software

Application software : software that performs special function and provides mush more than the basic operation of the computer called application software.

- It is designed to full fill user requirements
- More interactive for the user
- It is used to some accomplished task

Example: MS word, Photoshop, illustration, Figma

System application : a software that directly operate the computer hardware and provide the basic functionality to the user and operate software smoothly known as system software.

- It is manage the computer resources
- Less interactive comparison of applications software
- Also known as low level software

Example: operating system, device driver like compiler-interpreter

Driver application: also known as the device driver and can control the devices .

- Every devices is that connected to a computer need at least one device driver function

Example: include the software that comes with any nonstandard hardware, game controller, headphone, keyboard and printer

Middleware application : middleware describes software that medicates between application and system software .

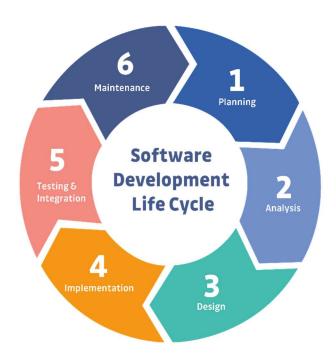>   Example: Middleware enables Microsoft windows to talk to excel and word.

- It is also used to send remote work request from an application in a computer that has one kind of OS

Programming software : computer programmer use programming software to write code .

- Programming software and programming tools enables developers to develop , write , test and debug other software programs .

>   Example: compiler, debuggers, interpreters

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

ANS : **SDLC :** software development life cycle

➤ SDLC provides a well structured flow of phases that helps an organization to quickly produce high quality software.

➤ It is used by software organization to plan, designing, develop, testing, modify and maintain software application.

Planning

- Planning phase is the initial phase of SDLC
- In this phase goal, scope, objective definition, resource planning, communication planning are defined.

Analysis

- This is the requirement gathered phase
- This involves a understanding user need, processes and system functionalities.
- That serve as a blueprint for the software development

Design

- In this phase translate requirement into technical design
- High level and low level design created
- High level design focus on system architecture while the low level design focus on the specifics each module

Implementation

- This is also known as the coding phase
- Developers write a code based on the design specifications
- this phase produce the actual source code of the software

Testing

- in this phase software are rigorously tested
- different level are testing are conducted including unit testing, integration testing, system testing and user acceptance testing

Maintenance

- the maintenance phase begin once the software is deployed to the production environment
- it involves monitoring the software performance, issues and making necessary updates
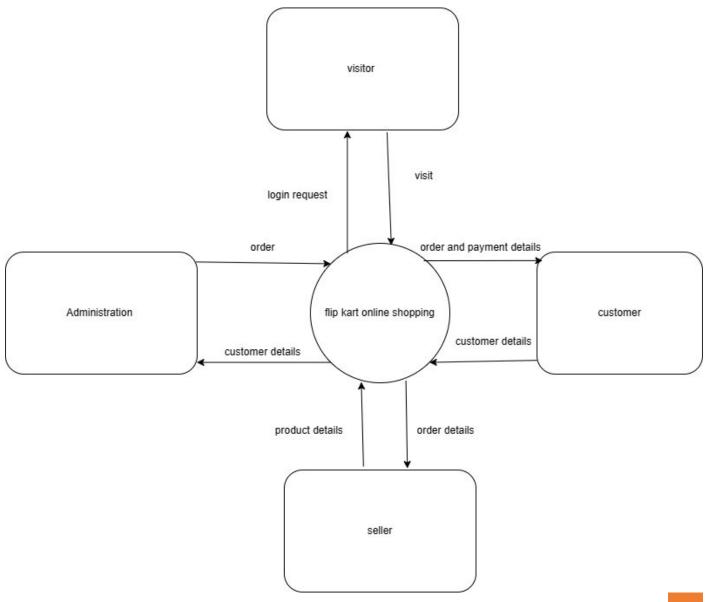- this phase ensure the software remains functional and up-to-date throughout its life cycle

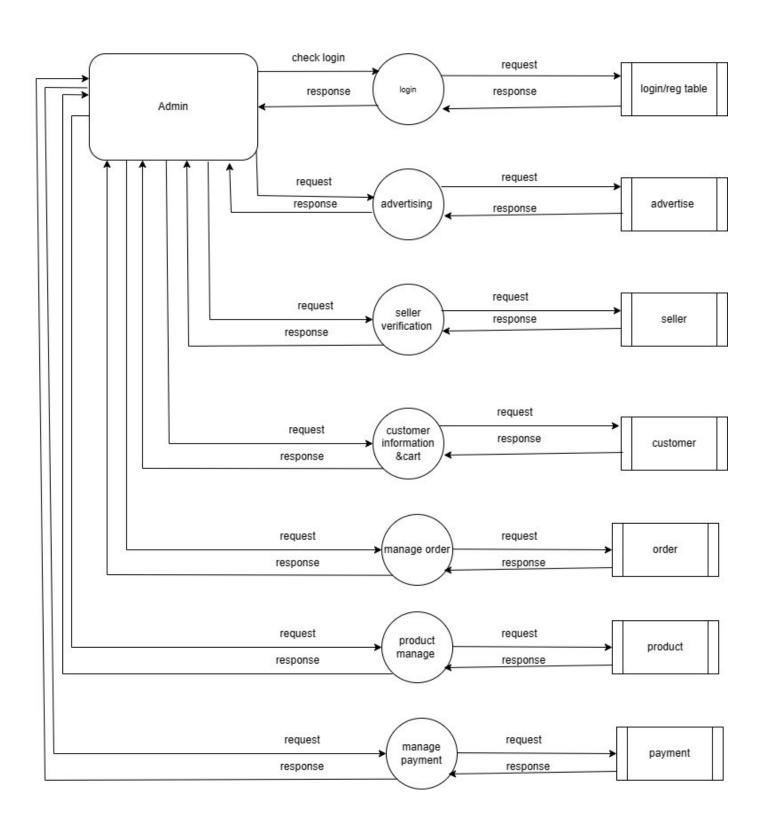4. What is DFD? Create a DFD diagram on Flipkart

ANS : DFD(data flow diagram)

➢ The flow of data of a system or a process is represented by DFD.

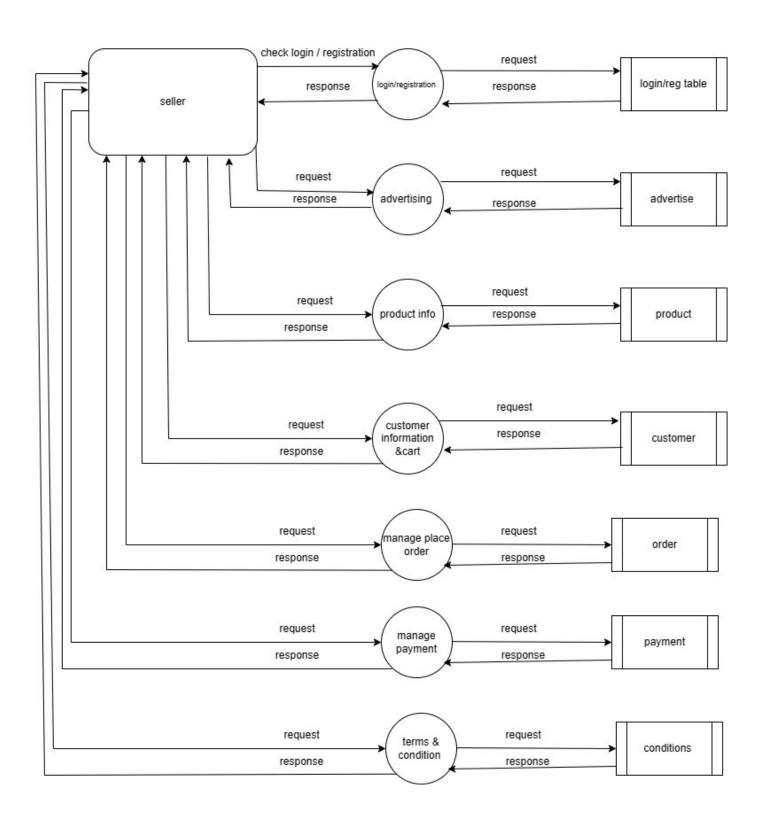➢ It also gives insight into the inputs and outputs of each entity and the process itself.
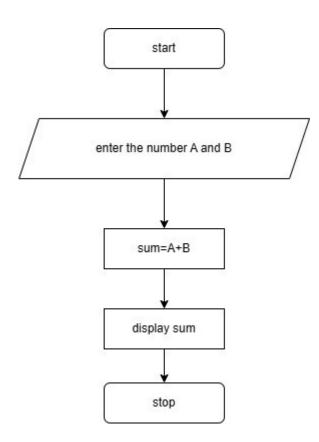
Flipkart DFD
0 LEVEL DFD

1 LEVEL DFD

2 LEVEL DFD

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

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

 ➢ It displays step-by-step solutions to a problem, algorithm, or process.

 ➢ It is a pictorial way of representing steps that are preferred by most beginner-level programmers to understand algorithms

```
        ┌─────────────┐
        │    start    │
        └─────────────┘
               │
               ▼
       ╱───────────────────╲
      ╱ enter the number A   ╲
      ╲      and B           ╱
       ╲───────────────────╱
               │
               ▼
        ┌─────────────┐
        │   sum=A+B    │
        └─────────────┘
               │
               ▼
        ┌─────────────┐
        │ display sum  │
        └─────────────┘
               │
               ▼
        ┌─────────────┐
        │    stop     │
        └─────────────┘
```

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

ANS : **use case:** A use case is a methodology used in system analysis to identify, clarify and organize system requirements

➢ The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal.