Software engineering assignment

MODULE: 1

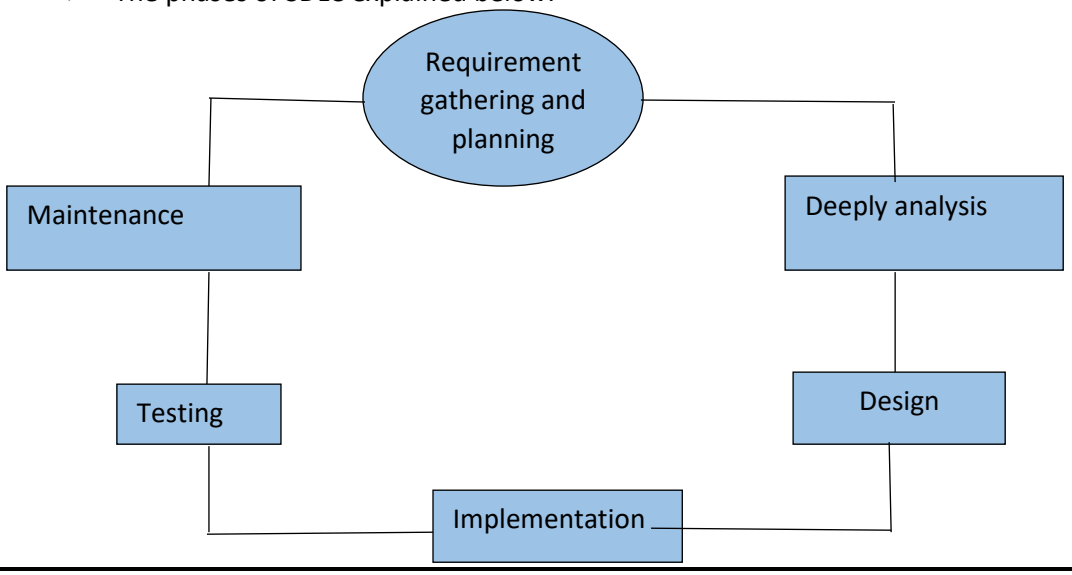
SE – Overview of IT industry

1. **What is software? What is software engineering?**
   - In a computer system, the software is basically a set of instructions or commands that tells a computer what to do. It executes a user's commands that enable the hardware to perform a specific task.
   - Software engineering is the process of developing, testing and deploying computer applications to solve real world problems. It deals with the design, development, testing and maintenance of software applications.

2. **Explain types of software?**
   - There are mainly two types of software:

System software	*Application software*
The system software is used for Operating computer hardware.	The application software is installed according the user requirement.
Is working is more automated. Once a system is turned on, the System software starts working.	User action is required to start application software. This application is only working when the user commands the system to do so.
Example – Android, MAC, Operating system, MS windows etc…	Example – Word processor, games, media player etc…..

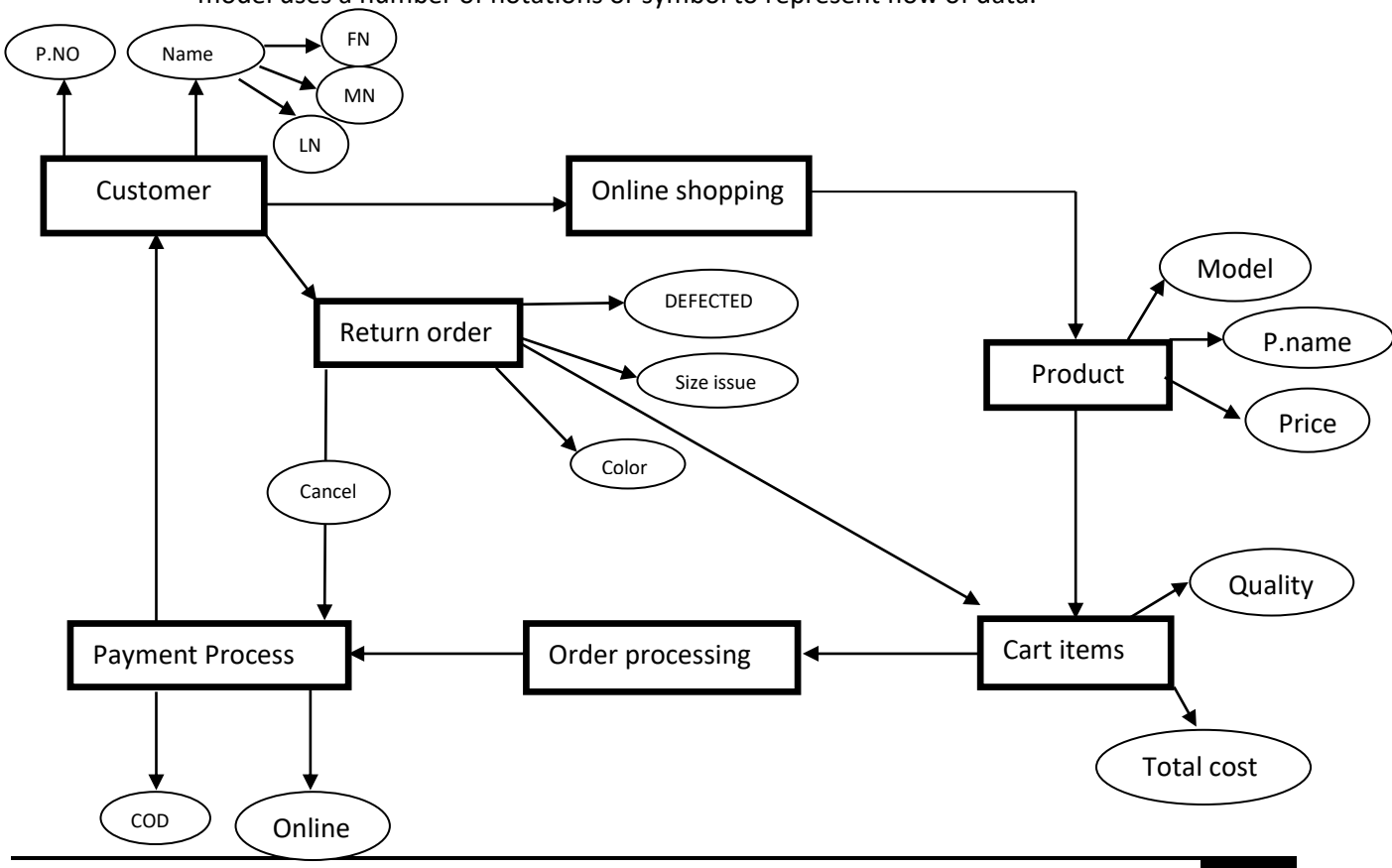
3. **What is SDLC? Explain each phase of SDLC**
   - SDLC- Stands for software development life cycle. Is a structured process that is used to design, develop and test good- quality software. Its aids in project planning, estimating and scheduling.
   - The phases of SDLC explained below:



1. Requirement gathering and planning: Gathering requirements from client and properly decide what to make, what not to make the cost, the time it takes to build, and other factor. They also set project deadline and milestones and overall structure for the project
2. Deeply analysis: Analysis phase into clear requirements (what do we want). Generate the system requirements, Conduct market research and many more. The necessary components and the resources needed to launch it.
3. Design: Creating a pre-production version of the product. The original plan and vision are elaborated into a software design document. The fundamental aspects developers cover during this phase are: Architecture, User interface, Security, Programming and many more.
4. Implementation (coding): Turn the software requirement into code that makes the product. In this phase, developers start building the entire system and shaping the project.
5. Testing: where Performance, Functional, Security many more testing can be done. Different types of testing occur during this phase, such as code quality, unit testing, integration testing, performance testing and many more.
6. Maintenance: Is the final stage of the SDLC. If user may find bugs and errors that were missed in the earlier testing phase. These bugs need to be fixed for better user experience. By studying user behaviour and feedback, the team can start to think about and plan for upgrades.

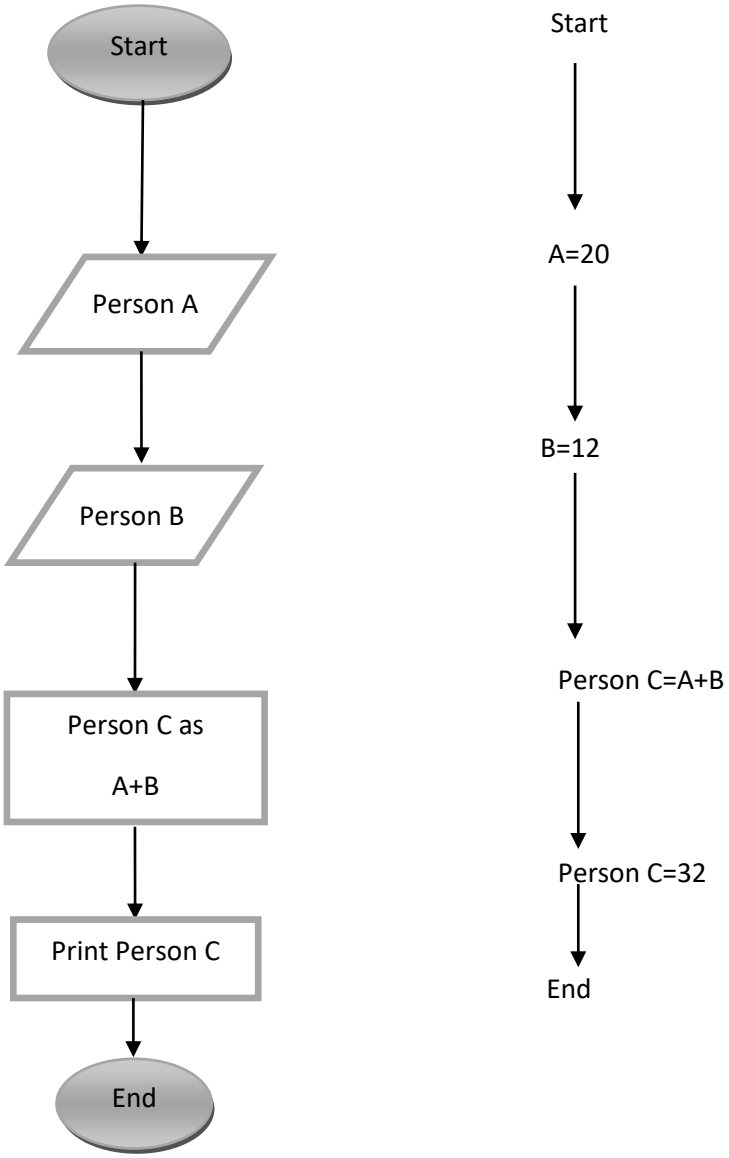
4. What is DFD? Create a DFD diagram on Flipchart

- DFD stands of “Data flow diagram”. It is also known as “bubble chart” through which we can represent the flow of data graphically in an information system.
- By using DFD we can easily understand the overall functionality of system because diagram represents the incoming data flow.
- It describes how data is processed in a system in terms of input and output. A DFD model uses a number of notations or symbol to represent flow of data.



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

- Flow chart is used to design some symbols or notation.
- By using graphical and symbolic representation
- When designing a flowchart, each step in the process is depicted by a different symbol and is associated with a short description.



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

- A use case model is a visual representation of the interactions between an actor and a system
- It outlines the interactions between users or actors and the system to achieve a specific outcome.
- The purpose of a use case is to: Establish requirements, Outline the way a user will interact with the system, Visualize system architecture many more.