MODULE: 1

(ASSIGNMENT)

SE – Overview of IT Industry

QUESTION 1. What is software? What is software engineering?

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

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

QUESTION 2. Explain types of software.

ANSWER: There are 5 types of software

- **Application software**

Application software serves specific purposes for end-users, such as productivity, entertainment, communication, and more. **Examples:** Microsoft Office Suite (Word, Excel, PowerPoint), Adobe Photoshop, Zoom.

- **System software**

These software programs are designed to run a computer's application programs and hardware. System software coordinates the activities and functions of the hardware and software. Example Microsoft Windows, Linux, Android, iOS.

- **Driver software**

Device drivers control the devices and peripherals connected to a computer, helping them perform their specific tasks. Every device that's connected to a computer needs at least one device driver to function. Examples USB storage devices, keyboards, headphones and printers.

- **Middleware**

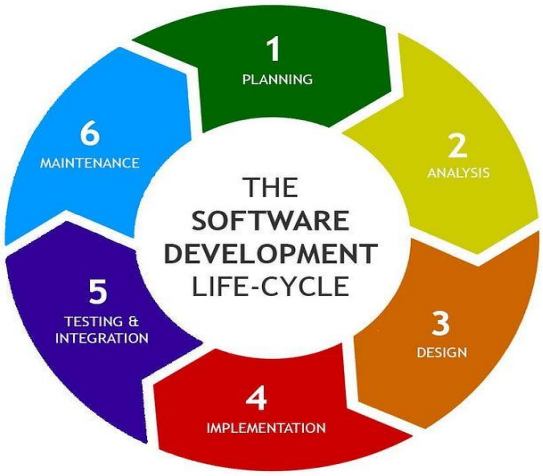
The term middleware describes software that mediates between application and system software or between two different kinds of application software. For example, middleware lets Microsoft Windows talk to Excel and Word.

- **Programming software**

Computer programmers use programming software to write code. Programming software and programming languages, such as Java or Python, let developers develop, write, test and debug other software programs. Examples of programming software include assemblers, compilers, debuggers and interpreters.

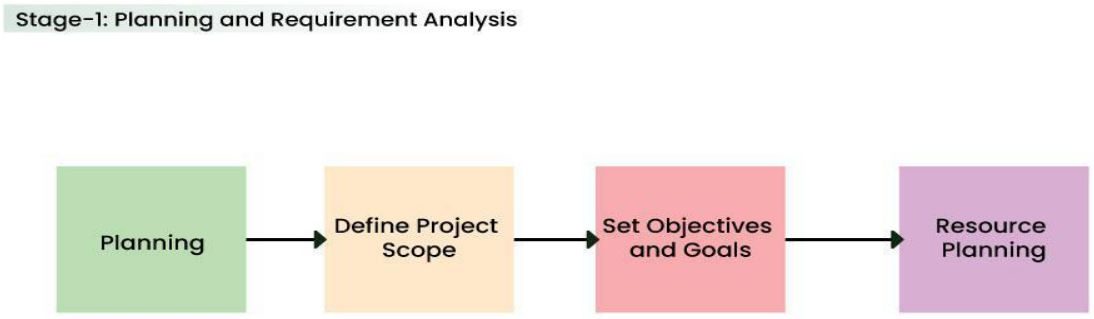
QUESTION 3. What is SDLC? Explain each phase of SDLC.

ANSWER: Software development life cycle (SDLC) is a structured process that is used to design, develop, and test good-quality software. SDLC, or software development life cycle, is a methodology that defines the entire procedure of software development step-by-step.



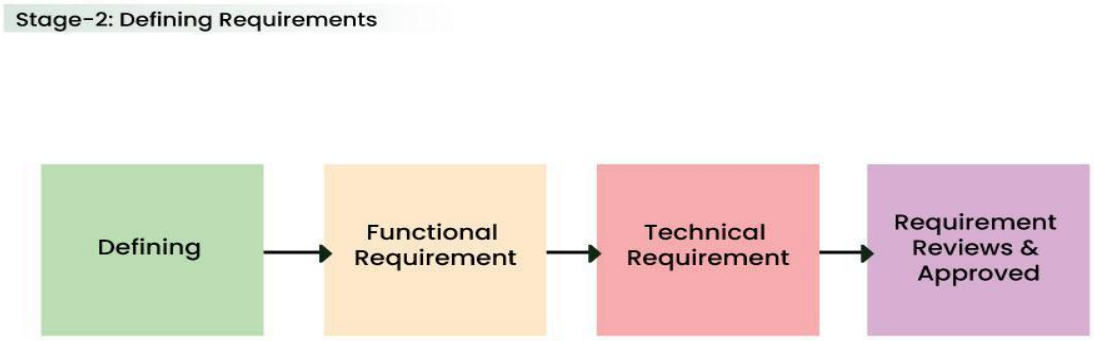
Stage-1: Planning and Requirement Analysis

Planning is a crucial step in everything, just as In software development In this same stage, requirement analysis is also performed by the developers of the organization. This is attained from customer inputs, and sales department/market surveys.
The information from this analysis forms the building blocks of a basic project. The quality of the project is a result of planning. Thus, in this stage, the basic project is designed with all the available information.



Stage-2: Defining Requirements

In this stage, all the requirements for the target software are specified. These requirements get approval from customers, market analysts, and stakeholders. This is fulfilled by utilizing SRS (Software Requirement Specification). This is a sort of document that specifies all those things that need to be defined and created during the entire project cycle.



Stage-3: Designing Architecture

Software Requirement Specification is a reference for software designers to come up with the best architecture for the software.
This Design Document Specification (DDS) is assessed by market analysts and stakeholders. After evaluating all the possible factors, the most practical and logical design is chosen for development.

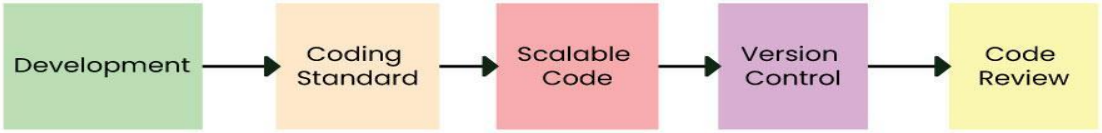
Stage-3: Designing Architecture

Stage-4: Developing Product

At this stage, the fundamental development of the product starts. For this, developers use a specific programming code as per the design in the DDS.

Conventional programming tools like compilers, interpreters, debuggers, etc. are also put into use at this stage. Some popular languages like C/C++, Python, Java, etc. are put into use as per the software regulations.

Stage-4: Developing Product



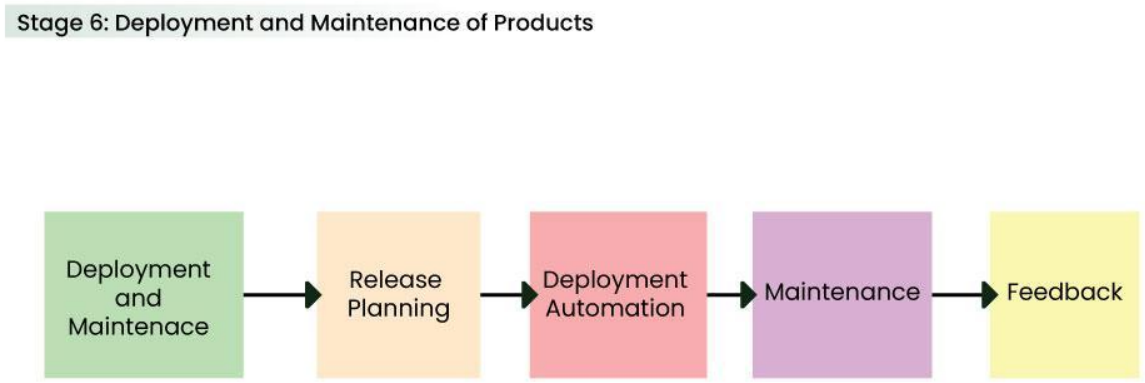
Stage-5: Product Testing and Integration

After the development of the product, testing of the software is necessary to ensure its smooth execution.

Stage-5: Product Testing and Integration

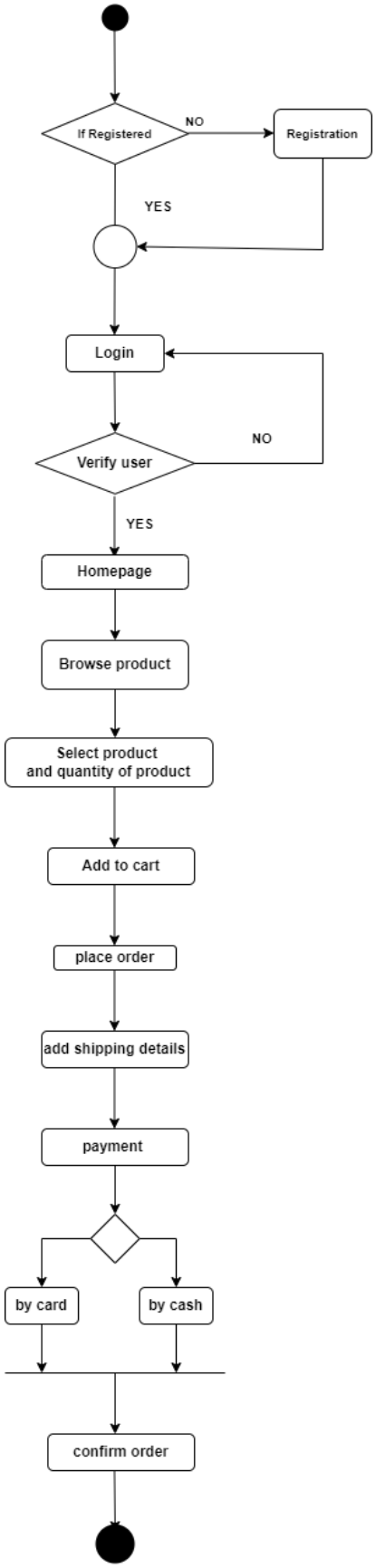
Stage-6: Deployment and Maintenance of Products

After detailed testing, the conclusive product is released in phases as per the organization's strategy. Then it is tested in a real industrial environment. It is important to ensure its smooth performance. If it performs well, the organization sends out the product as a whole. After retrieving beneficial feedback, the company releases it as it is or with auxiliary improvements to make it further helpful for the customers. However, this alone is not enough. Therefore, along with the deployment, the product's supervision.



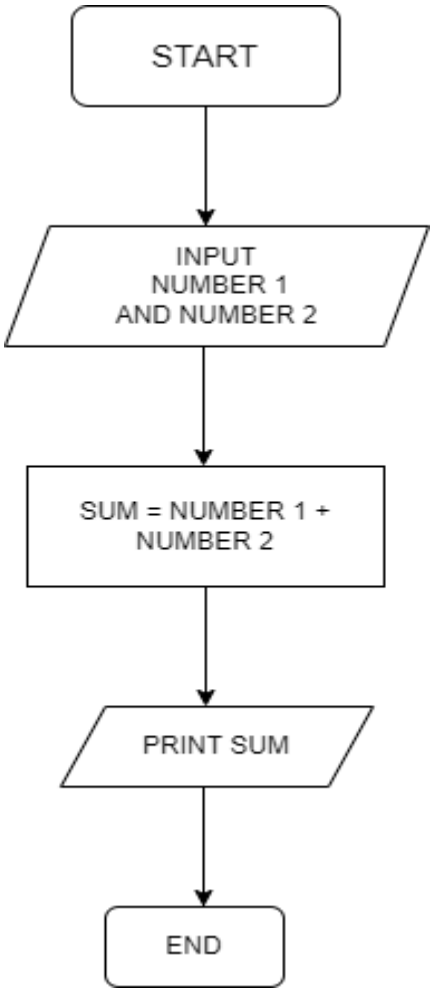
QUESTION 4. What is DFD? Create a DFD diagram on Flipkart.

ANSWER. Data Flow Diagram (DFD) represents the flow of data within information systems. Data Flow Diagrams (DFD) provide a graphical representation of the data flow of a system that can be understood by both technical and non-technical users. The models enable software engineers, customers, and users to work together effectively during the analysis and specification of requirements.


If Registered
NO
Registration
YES
Login
Verify user
NO
YES
Homepage
Browse product
Select product
and quantity of product
Add to cart
place order
add shipping details
payment
by card
by cash
confirm order

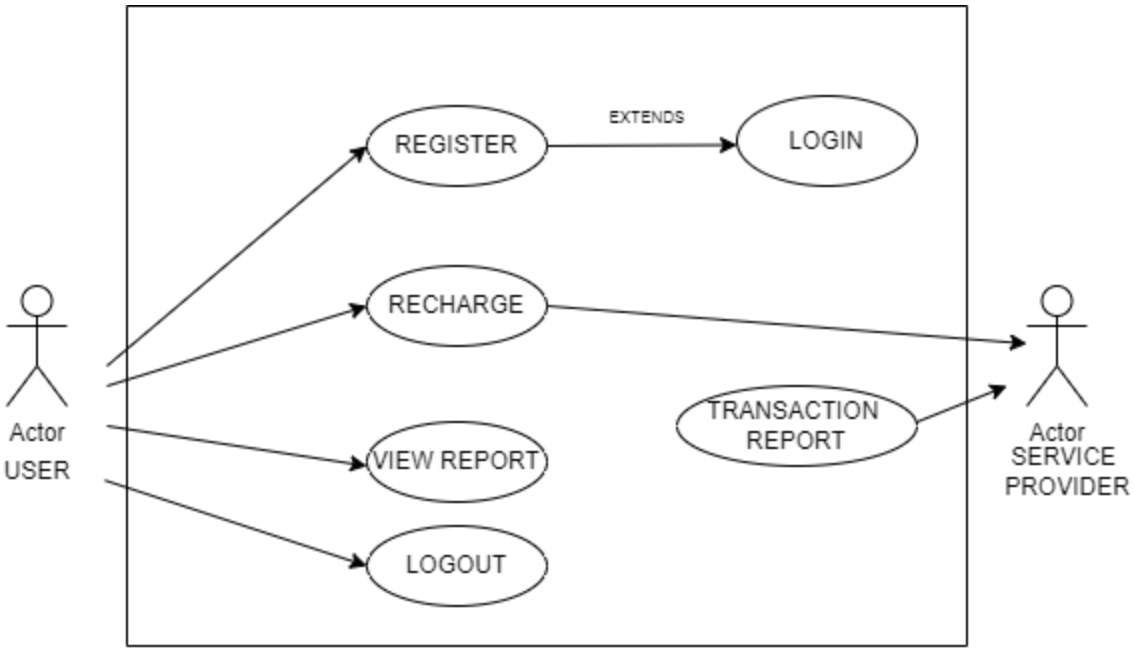
QUESTION 5. What is Flow chart? Create a flowchart to make addition of two numbers.

ANSWER. A flowchart is a type of diagram that represents a workflow or process.



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

ANSWER: A Use Case Diagram is a vital tool in system design, it provides a visual representation of how users interact with a system. It serves as a blueprint for understanding the functional requirements of a system from a user's perspective, aiding in the communication between stakeholders and guiding the development process.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REPORT
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Actor
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