Assignment :- 1 (SDLC)

1. What is software? What is software engineering?
Ans:-

What is Software?

"**Software is a set of programs (sequence of instructions) that allows the users to perform a well-defined function or some specified task.**"

Software is responsible for directing all computer-related devices and instructing them regarding what and how the task is to be performed. However, the software is made up of binary language (composed of ones and zeros), and for a programmer writing the binary code would be a slow and tedious task. Therefore, software programmers write the software program in various human-readable languages such as Java, Python, C#, etc. and later use the source code.

What is Software Engineering?

The term **software engineering** is the product of two words, **software**, and **engineering**.

The **software** is a collection of integrated programs.

Software subsists of carefully-organized instructions and code written by developers on any of various particular computer languages.Computer programs and related documentation such as requirements, design models and user manuals.

Engineering is the application of **scientific** and **practical** knowledge to **invent, design, build, maintain**, and **improve frameworks, processes, etc**.

Software Engineering is an engineering branch related to the evolution of software product using well-defined scientific principles, techniques, and procedures. The result of software engineering is an effective and reliable software product.

2. Explain types of software.

Ans:- Types of Software:-

Software's are broadly classified into two types, i.e., **System Software and Application Software**.

1. System Software

System software **is a computer program that helps the user to run computer hardware or software and manages the interaction between them**. Essentially, it is software that **constantly runs in the computer background, maintaining the computer hardware and computer's basic functionalities, including the operating system, utility software, and interface**. In simple terms, you can say that the system acts as a middle man that checks and facilitates the operations flowing between the user and the computer hardware.

System software is not limited to the operating system. They also include the basic I/O system procedures, the boot program, assembler, computer device driver, etc. This software supports a high-speed platform to provide effective software for the other applications to work in effortlessly. Therefore system software is an essential part of your computer system. **They are the first thing that gets loaded in the system's memory wherever you turn on your computer**. **System software is also known as "low-level software"** because the end-users do not operate them. Companies usually employ the best software development programmers who can deploy efficient system software.

Application Software

Application programs or software applications are end-user computer programs developed primarily to provide specific functionality to the user. The applications programs assist the user in accomplishing numerous tasks such as doing **online research, completing notes, designing graphics, managing the finances, watching a movie, writing documents, playing games, and many more**. Therefore, many software applications are designed and developed every year by companies as per the demand and requirements of the potential users. The application software can either be designed for a general-purpose or specially coded as per the requirements of business cooperation.

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

Ans:-

Software Development Life Cycle (SDLC)

A software life cycle model (also termed process model) is a pictorial and diagrammatic representation of the software life cycle. A life cycle model represents all the methods required to make a software product transit through its life cycle stages. It also captures the structure in which these methods are to be undertaken.

The Phases of SDLC are as follows:

Phase1: Planning and requirement analysis

Requirement Analysis is the most important and necessary stage in SDLC.

The senior members of the team perform it with inputs from all the stakeholders and domain experts or SMEs in the industry.

Planning for the quality assurance requirements and identifications of the risks associated with the projects is also done at this stage.

Phase2: Defining Requirements

Once the requirement analysis is done, the next stage is to certainly represent and document the software requirements and get them accepted from the project stakeholders.

Phase3: Designing the Software

The next phase is about to bring down all the knowledge of requirements, analysis, and design of the software project. This phase is the product of the last two, like inputs from the customer and requirement gathering.

Phase4: Developing the project

In this phase of SDLC, the actual development begins, and the programming is built. The implementation of design begins concerning writing code. Developers have to follow the coding guidelines described by their management and programming tools like compilers, interpreters, debuggers, etc. are used to develop and implement the code.

Phase5: Testing

After the code is generated, it is tested against the requirements to make sure that the products are solving the needs addressed and gathered during the requirements stage.

During this stage, unit testing, integration testing, system testing, acceptance testing are done.

Phase6: Deployment

Once the software is certified, and no bugs or errors are stated, then it is deployed.

Then based on the assessment, the software may be released as it is or with suggested enhancement in the object segment.

Phase7: Maintenance

Once when the client starts using the developed systems, then the real issues come up and requirements to be solved from time to time.

Registration form

Login form

Email / Number

Password

Reset

Change

Update the menu

Manage Stock

Add / Remove Products

Sales stat

Manage history of orders

Admin

Delivery guy

Registration form

Login form

Email / Number

Password

Reset

Change

Products

Pick the order

Deliver the order

Manage orders

Customer

1.Give register details
2.Request accept
3.creat wishlist
4.Payment Done

1.Register Details
2.Request for login
3.Product Wishlist
4.Payment

Database

E-Commerce

1.Register details
2.Request of login
3.Send wishlist
4.Payment details

1.Give the details
2.give customer details
3.add wishlist
4.Payment confirmation

Admin

Admin

Customer

Login

- Return customer details
- Login details
- Login request
- give customer detail

Products

- Check order availibility
- Product Details
- Customer order
- Confirm order

Payment

- Payment methods
- select method

Shipping

- Shipping management information
- Delivery date

Sales

- Profit / loss according to how much product is sell
- Number of order placed by customer

Feedback

- Implement the product according to feedback
- Give the feedback by customer

Customer

PK	**UniqueID**
FK	Customer id Name email / phone number Password Address

Store owner

PK	**UniqueID**
FK	Owner id Name Email / Phone number Password Address

order item

PK	**UniqueID**
FK	order / item id Quantity Discount

Store

PK	**UniqueID**
FK	Store id Name Contact number Address