# Assignment -- 1

1 ၀ What is software? What is software engineering?

**Ans→What is Software :- Software is a set of instructions, data or programs used to operate computers and execute specific tasks.It is the opposite of hardware, which describes the physical aspects of a computer. Software is a generic term used to refer to applications, scripts and programs that run on a device.**

## **→What is 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, and maintainable software.**

1. **Software engineering includes a variety of techniques, tools, and methodologies, including requirements analysis, design, testing, and maintenance.**
2. **It is a rapidly evolving field, and new tools and technologies are constantly being developed to improve the software development process.**
3. **By following the principles of software engineering and using the appropriate tools and methodologies, software developers can create high-quality, reliable, and maintainable software that meets the needs of its users.**
4. **Software Engineering is mainly used for large projects based on software systems rather than single programs or applications.**
5. **The main goal of Software Engineering is to develop software applications for improving quality,  budget, and time efficiency.**
6. **Software Engineering ensures that the software that has to be built should be consistent, correct, also on budget, on time, and within the required requirements.**

2 ၀ Explain types of software

**Ans→ here mainly two type of software's are there**

**၀ System software :- which software's are operating a whole system its called as a system software. if we using a android mobile phone here android software is a system software which operating our mobile.**

**For**

**Ex. Windows 7,8.1,10,11 , mac , Linux ,android**

**၀ Application software :- when any software are specially make to do any particular task and which operate by the users. its called as a application software.**

**For**

**Ex. Ms word , Ms excel , tally , Photoshop , Pagemaker , whatsapp.**

**၀ Driver software :-Also known as device drivers, this software is often considered a type of system software. Device drivers control the devices and peripherals connected to a computer, enabling them to perform their specific tasks. Every device that is connected to a computer needs at least one device driver to function.**

**၀ Programming software :- Computer programmers use programming software to write code. Programming software and programming tools enable developers to develop, write, test and debug other software programs. Examples of programming software include assemblers, compilers, debuggers and interpreters.**

**၀ middleware :- The term middleware describes software that mediates between application and system software or between two different kinds of application software. For example, middleware enables Microsoft Windows to talk to Excel and Word. It is also used to send a remote work request from an application in a computer that has one kind of OS, to an application in a computer with a different OS.**

3 ၀ What is SDLC? Explain each phase of SDLC

**Ans→ SDLC stands for (software development life cycle).**

→ **SDLC aims to build a software product that meets the user requirements, while STLC aims to ensure that the software is bug-free and reliable.**

**→SDLC consists of various phases**

* **Requirement Gathering :-**

**This phase is critical for converting the information gathered during the planning and analysis phase into clear requirements for the development team. This process guides the development of several important documents: a software requirement specification (SRS), a Use Case document, and a Requirement Traceability Matrix document.**

* **Analysis :-**

**The first phase of the SDLC is the project planning stage where you are gathering business requirements from your client or stakeholders.Once it is decided that the software project is in line with business and stakeholder goals, feasible to create, and addresses user needs, then you can move on to the next phase.**

* **Design :-**

**The design phase is where you put pen to paper—so to speak. The original plan and vision are elaborated into a software design document (SDD) that includes the system design, programming language, templates, platform to use, and application security measures. This is also where you can flowchart how the software responds to user actions.**

* **Testing :-**

**Before getting the software product out the door to the production environment, it’s important to have your quality assurance team perform validation testing to make sure it is functioning properly and does what it’s meant to do. The testing process can also help hash out any major user experience issues and security issues.**

* **Deployment :-**

**The actual development phase is where the development team members divide the project into software modules and turn the software requirement into code that makes the product.**

**This SDLC phase can take quite a lot of time and specialized development tools. It’s important to have a set timeline and milestones so the software developers understand the expectations and you can keep track of the progress in this stage.**

**In some cases, the development stage can also merge with the testing stage where certain tests are run to ensure there are no critical bugs.**

* **Maintenance :-**

**The maintenance phase is the final stage of the SDLC if you’re following the waterfall structure of the software development process. However, the industry is moving towards a more agile software development approach where maintenance is only a stage for further improvement.**

**In the maintenance stage, users may find bugs and errors that were missed in the earlier testing phase. These bugs need to be fixed for better user experience and retention. In some cases, these can lead to going back to the first step of the software development life cycle.**

4 ၀ What is DFD? Create a DFD diagram on Flipkart

**Ans→DFD :- dfd is stands for data flow diagram.**

**Dfd is represent the flow of data and processes in on chart its called dfd. Dfd is useful analyzing exiting processes as well as proposed system.**

**→ DFD has two types**

**→ Logical dfd**

**→ physical dfd**

**Level 0 dfd**

View items

**Login update**

Admin

customer

**Confirmation Confirmation**

**For example**

**Level 1 dfd**

login

**Search obj**

customer

Confirm order

Add to cart

View item

payment

**Level 2 dfd**

login

Admin

customer

View item

Add to cart

Place order

Bill

payment

5 ၀ What is Flow chart? Create a flowchart to make addition of two numbers

**Ans→ Flow chart :- A flow chart is a picture of the separate steps of the process.**

**Flow chart describe the whole process in to steps in the one page its called a flow chart. It is very useful when we have to understand any any process and we have some times viewers can easily understand the whole process in just some time.**

**Flow chart to make addition of two numbers :-**

Start

End

Print Sum

Sum = Number1 + Number2

Input number1,

Input number 2,

6 ၀ What is Use case Diagram? Create a use-case on bill payment on paytm.

**Ans→ Use case diagram is a type of UML diagram that is used for representing the dynamic aspect of the system. It is useful when visualizing and specifying the system in the analysis and designing phase. User stories describe the functionality of a software system in a simple way.**

Scan the qr code or from upi id

Receiver get the payment in his acco

Sender do payment on the upi

Receiver sending acknowledgement

Money send

Payment in processing

Payment succesfull

Or payment failed

**Sender**

**receiver**