**Assignment**

1. **What is software? What is software engineering?**

* **Software** In a computer system, the software is basically a set of instructions or commands that tells a computer what to do. Or in other words, the software is a computer program that provides a set of instructions to execute a user’s commands and tell the computer what to do. For example like MS-Word, MS-Excel, PowerPoint, etc.
* **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. Software engineering includes a variety of techniques, tools, and methodologies, including requirements analysis, design, testing, and maintenance.

1. **Explain types of software?**

* **Examples and types of software -** The most common type of software, application software is a computer software package that performs a specific function for a user, or in some cases, for another application.
* **Application Software -** These software programs are designed to run a computer's application programs and hardware. It controls the operations of the computer hardware and provides an environment or platform for all the other types of software to work in.
* **System 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.
* **Driver 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.
* **Middle Software -** 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.
* **Programing 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.

1. **What is SDLC? Explain each phase of SDLC?**

* The Software Development Life Cycle (SDLC) is a process used by software development organizations to plan, design, develop, test, deploy, and maintain software applications.
* **SDLC (Software Development Life Cycle)** is used in Every Software Development Company because it is the root of the Development Cycle.
* **There are 6 phases of SDLC:-**

1. **Requirement Gathering :-** This phase involves gathering information about the software requirements from stakeholders, such as customers, end-users, and business analysts.
2. **Analysis :-**  Business analyst and Project Manager set up a meeting with the customer to gather all the information.
3. **Designing :-**In this phase, the software design is created, which includes the overall architecture of the software, data structures, and interfaces. ExamplesStatic website:- HTML, CSS, Javascript.
4. **Coding/Implementation :-** The design is then implemented in code, usually in several iterations, and this phase is also called as Development. end Quality.
5. **Testing :-**The software is thoroughly tested to ensure that it meets the requirements and works correctly.
6. **Maintenance:-** This phase includes ongoing support, bug fixes, and updates to the software.