Software Engineering Assignment

Q1)What is software? What is software engineering

Ans) Software engineering is the application of engineering principles to software development. It is the process of analyzing user needs and designing, constructing, and testing end-user applications. Software engineers use engineering principles and knowledge of programming languages to build software solutions for end users.

Q2) Explain types of software

- Ans) **Application 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. An application can be self-contained, or it can be a group of programs that run the application for the user. Examples of modern applications include office suites, graphics software, databases and database management programs, web browsers, word processors, software development tools, image editors and communication platforms.
- **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. In addition, it controls the operations of the computer hardware and provides an environment or platform for all the other types of software to work in. The OS is the best example of system software; it manages all the other computer programs. Other examples of system software include the firmware, computer language translators and system utilities.
- **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. Examples include software that comes with any nonstandard hardware, including special game controllers, as well as the software that enables standard hardware, such as USB storage devices, keyboards, headphones and printers.

Q3) What is SDLC? Explain each phase of SDLC

SDLC stands for Software Development Life Cycle. It's a framework that defines the tasks involved in the software development process. The goal of SDLC is to produce high-quality software that meets customer expectations.

1.To ensure that the software is of high quality: The SDLC includes testing and quality assurance phases, which help to ensure that the software is free of bugs and that it meets the requirements.

2.To manage risks and costs: The SDLC helps organizations to identify and manage risks early in the development process, which can help to reduce costs and minimize the impact of any issues that do arise.

3.To improve communication and collaboration: The SDLC helps to ensure that all stakeholders, including customers, end-users, and developers, are involved in the development process and that their needs are taken into account.

4.To improve efficiency and productivity: The SDLC helps organizations to optimize the use of resources and to streamline the development process, which can improve efficiency and productivity.

5.To increase the likelihood of a successful project outcome: Following a well-defined SDLC process can greatly increase the chances of success of the project, as the process guides the team towards the goal in a systematic and efficient way.