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

→ Software refers to a collection of programs, instructions, and data that enable a computer or electronic device to perform specific tasks or functions. It's the intangible component of a computer system that controls its hardware and provides the functionality that users interact with.

**• Software Engineering:-**

→ Software engineering is a systematic and disciplined approach to designing, developing, testing, and maintaining software systems. It involves applying engineering principles to the entire software development lifecycle to ensure the creation of high-quality, reliable, and scalable software products. The goal of software engineering is to produce software that meets user requirements, is maintainable, and is delivered on time and within budget.

1. **Explain types of software?**

**1.** **System Software:-**

System software is a program designed to run a computer's hardware and applications and manage its resources, such as its memory, processors, and devices.

**2. Application Software:-**

Application software is a type of computer program that performs a specific personal, educational, and business function.

**3. Development Software:-**

Software development refers to a set of computer science activities dedicated to the process of creating, designing, deploying and supporting software*.*

**4. Enterprise Software:-**

Enterprise software is computer software used to satisfy the needs of an organization rather than individual users.

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

**→** SDLC, or Software Development Life Cycle, is a structured process used by software developers and teams to design, develop, test, and maintain software systems. It provides a framework for managing the entire software development process, from initial concept to final deployment and ongoing maintenance. The SDLC helps ensure that software projects are well-planned, executed, and controlled, leading to higher-quality software that meets user requirements.

**Phase of SDLC:-**

1. **Requirements Analysis:-**

This phase involves gathering information about the software requirements from stakeholders, such as customers, end-users, and business analysts.

1. **System Design:-**

The software design is created, which includes the overall architecture of the software, data structures, and interfaces.

1. **Implementation (Coding):-**

The design is then implemented in code, usually in several iterations, and this phase is also called as Development.

1. **Testing:-**

The software is thoroughly tested to ensure that it meets the requirements and works correctly.

**5. Deployment:-**

After successful testing, the software is deployed to a production environment and made available to end-users.

**6. Maintenance:-**

This phase includes ongoing support, bug fixes, and updates to the software**.**