**UNIT 1**

**Define software**

Software refers to a set of instructions and programs that control the behaviour of a computer or other electronic device. It is a collection of computer programs and related data that provide the instructions for telling a computer what to do and how to do it. Software can be divided into two main categories: system software and application software.

**Characteristics of software**

* Intangible: Software is intangible, meaning it cannot be touched, seen or felt like hardware. It is a digital product that exists only in the form of code and data.
* Flexible: Software is flexible and can be easily modified to meet changing user needs or to fix bugs. This is possible because software is not a physical product that needs to be manufactured or assembled.
* Complex: Software can be very complex, and it requires specialized skills and knowledge to design, develop, and maintain. A large software system can consist of millions of lines of code.
* Customizable: Software can be customized to meet specific user requirements. It can be tailored to fit the needs of a particular organization or user, which makes it a powerful tool for businesses.
* Scalable: Software can be easily scaled up or down depending on the needs of the user. It can be designed to handle a small number of users or millions of users, and can be run on a single machine or distributed across multiple machines.
* Non-perishable: Software does not deteriorate over time or wear out like hardware. It can last for years without losing its effectiveness or usefulness.
* Subject to bugs and errors: Software is subject to bugs and errors, which can cause it to malfunction or crash. It requires careful testing and debugging to ensure that it works as intended.

**Types of software**

System software: System software is designed to manage the resources of a computer system and provide a platform for running application software. Examples of system software include:

Operating systems (e.g., Windows, macOS, Linux)

Device drivers (e.g., printer drivers, audio drivers)

Firmware (e.g., BIOS, UEFI)

Utility programs (e.g., disk defragmenters, antivirus software)

Application software: Application software is designed to perform specific tasks or functions for users. Examples of application software include:

Word processors (e.g., Microsoft Word, Google Docs)

Spreadsheets (e.g., Microsoft Excel, Google Sheets)

Databases (e.g., Microsoft Access, MySQL)

Web browsers (e.g., Google Chrome, Mozilla Firefox)

Multimedia software (e.g., Adobe Photoshop, Windows Media Player)

Games (e.g., Minecraft, Call of Duty)

Application software can be further classified into the following categories based on their functions:

Productivity software: These are software applications that are used to perform day-to-day tasks such as word processing, spreadsheet management, email, and other administrative tasks.

Entertainment software: These are software applications that are designed to entertain users, such as games and multimedia software.

Educational software: These are software applications that are designed to help students learn, such as interactive textbooks and educational games.

Communication software: These are software applications that are used for communication, such as email clients and instant messaging software.

Utility software: These are software applications that are used for system maintenance and optimization, such as disk cleanup utilities and system backup software.