UNIT-VI

🖥️ What is Software?

Software is a collection of instructions or programs that tell a computer how to perform specific tasks. These instructions are written by programmers and are used to operate the hardware of the computer. Unlike hardware, software cannot be touched — it is intangible — but it's essential for making computers useful. Without software, hardware is like a body without a brain.

Main Categories of Software

Software is mainly classified into **two major categories**, with a few additional ones too. Let's understand each in detail:

🔍 Classification of Software –

Overview of Software Classification

Software is broadly classified into different categories based on its functionality. The two main types are **System Software** and **Application Software**, with additional categories like **Programming Software**, **Utility Software**, and **Middleware**. Each type plays a vital role in making a computer system functional, user-friendly, and customizable.

1. System Software

System software is designed to manage the system resources and provide a platform for other software. It runs in the background and ensures that hardware components function smoothly together. Examples include: It acts as a bridge between the user and the hardware.

- **Operating Systems** like Windows, Linux, macOS.
- **Device Drivers** that allow the operating system to communicate with hardware.
- **Utility Programs** like disk defragmenters or backup tools.

📌 Types of System Software:

Operating System (OS):

Manages all hardware and software on a computer. Controls memory, processes, files, and peripheral devices.

BRIGHTEN SKILLS COMPUTER TRAINING INSTITUTE PEDDAPALLI - +91 8297209437

- ✍ *Examples:* Windows, Linux, macOS, Android.

b) Utility Software:

Utility software supports the system by performing maintenance tasks like virus scanning, file compression, and system cleanup. These tools ensure your system stays optimized. Examples include:

- **CCleaner** (System cleanup)
- **WinRAR** (File compression)
- **Avast Antivirus**

c) Device Drivers:

Programs that allow the operating system to communicate with hardware devices.

- 🖊 *Examples:* Printer driver, display driver, audio driver.

d) Language Translators (Compilers, Interpreters):

Convert high-level programming languages into machine code.

- 🛠 *Examples:* C compiler, Python interpreter.

2. Application Software

Application software helps users perform specific tasks. These programs are user-focused and designed for productivity, media, education, or entertainment. Unlike system software, it doesn't manage hardware it helps the user do work.

📌 **Types of Application Software:**

a) General Purpose Software:

- Used for common, everyday tasks.
- ✍ *Examples:*
  - MS Word (for documents)
  - MS Excel (for spreadsheets)
  - MS PowerPoint (for presentations)
  - Web Browsers (Google Chrome, Firefox)

b) Specific Purpose Software:

- Designed for a particular application or task.
- ✍ *Examples:*

- o Billing software in shops
- o Attendance software in schools
- o Railway reservation system

c) Customized Software:

- Tailor-made for a particular user or organization.
- 🗄 *Examples:* School management software, hospital database system.

Summary Table

Type of Software	Subtype	Function	Examples
System Software	Operating System	Controls hardware & runs applications	Windows, Linux, Android
	Utility Programs	Maintain system performance	Antivirus, Disk Defragmenter
	Device Drivers	Interface between OS and hardware	Printer driver, Graphics driver
	Language Translators	Convert code into machine language	C Compiler, Java Interpreter
Application Software	General Purpose	Helps with general user tasks	MS Word, Excel, Chrome
	Specific Purpose	Solves one particular task	Railway Booking Software
	Customized Software	Developed for one user/organization	Hospital or School Management

Programming Software

Programming software provides tools for developers to create new software. It includes compilers, interpreters, code editors, and debuggers. Examples:

- **Python IDE (like PyCharm)**
- **Java Compiler**
- **Visual Studio Code**

Middleware

Middleware connects different applications or services to work together efficiently. It acts like a translator between different software systems. For example:

- Connecting a website's front-end with a database.
- Linking ERP and CRM systems.

Summary

Understanding software classification helps in knowing the role and importance of different software types. From managing hardware to performing user tasks and connecting complex systems, each category of software contributes to the smooth operation of modern computing environments.