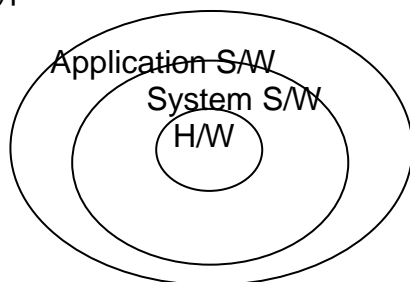


## Types of Software

There are mainly two types of Software :-



### A. System Software :

System software is a computer program that helps the user to run computer hardware or software and manages the interaction between them. Or in other words, system software basically controls a computer's internal functioning and also controls hardware devices such as monitors, printers, and storage devices, etc. It is like an interface between hardware and user applications, it helps them to communicate with each other because hardware understands machine language(i.e. 1 or 0) whereas user applications are work in human-readable languages like English, Hindi, German, etc. so system software converts the human-readable language into machine language and vice versa. It includes following features:

- it is close to system.
- It is fast in speed.
- It is difficult to manipulate.
- It is smaller in size.
- It is difficult to design.
- It is difficult to understand.
- It is generally written in low level languages.

It is of following types:-

**1. Operating System:** It is the main program of a computer system. When the computer system ON it is the first software that loads into the computer's memory. Basically, it manages all the resources such as computer memory, CPU, printer, hard disk, etc., and provides an interface to the user, which helps the user to interact with the computer system. It also provides various services to other computer software. E.g. Dos, Unix, Linux, Apple macOS, Microsoft Windows, etc.

**2. Language Processor:** As we know that system software converts the human-readable language into a machine language and vice versa. So, the conversion is done by the language processor. It converts programs written in high-level programming languages like Java, C, C++, Python, etc(known as source code), into sets of instructions that are easily readable by machines(known as object code or machine code). E.g. Compiler, interpreter, assembler.

**3. Device Driver:** A device driver is a program or software that controls a device and helps that device to perform its functions. Every device like a printer, mouse, modem, etc. needs a driver to connect with the computer system internally. So, when you connect a new device with your computer system, first you need to install the driver of that device so that your operating system knows how to control or manage that device.

**4. Utility:** Utility software is developed to provide support in analyzing, optimizing, along configuring and maintaining a computer. The job of the utility program is to offer support to the system infrastructure. Though the system will work even if it doesn't have any utility software, the right kind of utility software enhances its performance and makes it more reliable. E.g. defragmentor, winzip, antivirus etc.

**5. Firmware :** In electronic systems and computing, **firmware is a type of permanent software embedded in the system's ROM (read-only memory) to provide low-level control for some particular system device hardware.** It is a set of instructions that are stored permanently on your computer's hardware device.  
E.g. Embedded system, BIOS etc.

### **B. Application Software :**

Software that performs special functions or provides functions that are much more than the basic operation of the computer is known as application software. Or in other words, application software is designed to perform a specific task for end-users. It is a product or a program that is designed only to fulfill end-users' requirements. It includes word processors, spreadsheets, database management, inventory, payroll programs, etc.

It has following features: -

- it is closed to the user.
- it is slow in speed.
- it is easy to understand
- it is easy to manipulate.
- it is easy to design.
- it is generally written in high level language.

Application software is of following types –

- a. **Word Processor Software:** In everyday life we work with different kinds of documents such as letters, applications, resume etc. word processor provides commands and tools to create and manage files. e.g. Ms word.

**USES:** writing letters, Memos, Reports, creating letterhead, mail merging.

**CHARACTERISTICS :** Entering text, editing text, formatting text, entering mathematical symbols, displaying documents, saving, retrieving and deleting documents, printing documents, searching and replacing text string , checking spelling and grammar.

- b. **Spreadsheet application:** A spreadsheet is a collection of columns and rows. Most of the organisation works with spreadsheets. A spreadsheet package provides built in function to calculate and analyse the data stored in groups, they also facilitate to represent our data in summarised way as a chart. E.g. Excel

**USES:**

- For maintaining and analysing inventory, payrolls.
- For preparing budgets and bid comparisons .
- For recording grades of students.
- For analysing experimental results.
- For tracking stocks and keeping records.
- For creating and tracking personal budgets.

**CHARACTERISTICS:** Rows and Columns, Cells, Range of Cells, cell contents like label, Numeric value, formula, date and time charts etc.

- c. **Graphics package:** Graphics packages are software product that converts the numeric data used by computer into the picture that people often prefer to use to communicate idea. Design packages are used to improve the productivity of designers, architects and engineers.  
**USES:** Creating drawings, maps, objects, sketches etc.  
**CHARACTERISTICS:** Draw designs, paint and pictures, present graphs, drag and drop objects.
- d. **DBMS Package:** In many organizations we need to store the records, where each record is a collection of field. Field is individual information related within an organism. A DBMS package provides tools and commands to create file for records stores and to manipulate stored records in different ways.  
**USES:** Banking, Airlines, Universities, Telecommunications, Finance, Sales, manufacturing, web based services etc.  
**CHARACTERISTICS:**  
Data availability, minimized redundancy, Data Accuracy, maintain Consistency, Data retrieval, multiuser access, Etc.