Module -1

❖ What is software?

Software is a set of instructions, data or programs used to operate computers and execute specific tasks. It is the opposite of hardware, which describes the physical aspects of a computer. Software is a generic term used to refer to applications, scripts and programs that run on a device. It can be thought of as the variable part of a computer, while hardware is the invariable part.

The two main categories of software are application software and system software. An application is software that fulfills a specific need or performs tasks. System software is designed to run a computer's hardware and provides a platform for applications to run on top of.

Other types of software include programming software, which provides the programming tools software developers need; middleware, which sits between system software and applications; and driver software, which operates computer devices and peripherals.

Early software was written for specific computers and sold with the hardware it ran on. In the 1980s, software began to be sold on floppy disks, and later on CDs and DVDs. Today, most software is purchased and directly downloaded over the internet. Software can be found on vendor websites or application service provider websites.

❖ What are the types of applications?

Application software can broadly be categorized into the following types. The category you opt for depends on your work-related needs. However, this is a

broad classification of general application software. Looking at these, it becomes easier for us to establish a general definition of software when talking about application software.

1. Web browsers
2. Presentation software
3. Spreadsheet software
4. Graphic software
5. Word processors
6. Database software
7. Multimedia software
8. Education software
9. Information software
10. Content access software

❖ What is programming?

There are countless definitions of what computer programming is, but here is mine.

"Programming is how *you* get computers to solve problems."

There are two key phrases here that are important:

- **You**: without the programmer (you), the computer is useless. It does what **you** tell it to do.

- **Solve problems**: computers are tools. They are complex tools, admittedly, but they are not mysterious or magical: they exist to make tasks easier.

❖ What is python?

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics developed by Guido van Rossum. It was originally released in 1991. Designed to be easy as well as fun, the name "Python" is a nod to the British comedy group Monty Python. Python has a reputation as a beginner-friendly language, replacing Java as the most widely used introductory language because it handles much of the complexity for the user, allowing beginners to focus on fully grasping programming concepts rather than minute details.

Python is used for server-side web development, software development, mathematics, and system scripting, and is popular for Rapid Application Development and as a scripting or glue language to tie existing components because of its high-level, built-in data structures, dynamic typing, and dynamic binding. Program maintenance costs are reduced with Python due to the easily learned syntax and emphasis on readability. Additionally, Python's support of modules and packages facilitates modular programs and reuse of code. Python is an open source community language, so numerous independent programmers are continually building libraries and functionality for it.