Module – (1) SDLC

- **What is software?**

"Software is a set of programs or set of instructions that allows user to perform various functions or specific task." Software directs all the computer devices regarding what and how the task is to be performed.

However software is made up of binary language (that is zero and one) and for a programmer writing a binary code would be a slow and tedious task. Therefore programmers write a software program in programming language such as Java, Python, PHP etc. and later use the source code. Softwares are broadly classified into two types i.e.

1. **System software**
   - **a)** Operating system (Windows, IOS, Linus, Ubuntu)
   - **b)** Device drivers (USB, Printer, Motherboard drivers)
   - **c)** Firmware
   - **d)** Utility software (WinZip, File explorer)

2. **Application software**
   - **a)** Word processors (MS word, Google Docs)
   - **b)** Data base software (MS Access, MySQL)
   - **c)** Multimedia software (Windows media player, VLC)
   - **d)** Web browsers (Chrome, UC Browser, Apple safari)

- **What are the types of Applications?**

Application software can be classified into following classifications:

1. Word processing software:

Word Processing refers to the act of using a personal computer (PC) or laptop to create, edit, save and print documents which can be performed only with specialized software known as a Word Processor. One example of a Word Processor is Microsoft Word which is widely used by all professionals.

2. Spreadsheet software:

Spreadsheet software is a type of computer program that enables a user to perform numerical functions and explore numbers through an automated version of an accounting worksheet. Best example of spreadsheet software is Microsoft Excel.

3. Presentation software:

Presentation software also commonly known as presentation graphics is a particular category of application program used to construct sequences of words and a series of pictures that tell a story or help support a speech or public presentation of any type of information or a launch of new products or services. Best example of presentation software is Microsoft Power Point.

4. Multimedia software:

Multimedia software can be described as the combination of text, audio, images, animation, or video to produce a wide scope of interactive content for both professional and personal use. You can easily learn about media players, file formats, and how to operate audio and video software on the whole. Such as Windows media player, VLC etc.

5. Web browsers:

A web browser can take you all over the internet. It retrieves data from other parts of the web and shows it on your desktop or mobile device for your viewing. The data is transmitted using the Hypertext Transfer Protocol, which describes how text, images, and video are shared on the World Wide Web.

6. Educational software:

Educational software refers to any computer software designed solely for educational reasons. It includes a wide range of software, including language learning software, classroom management software (CMS).

7. Graphics software:

Graphics software can rework with bitmap and/or vector graphics and can be utilized to create label templates. Graphics software generally includes Canva, Adobe Illustrator, Photoshop, InDesign, CorelDraw, Inkscape, Microsoft Paint, and Paint.Net.

- **What is Programming?**

Programming refers to a technological process for telling a computer which tasks to perform in order to solve problems. You can think of programming as collaboration between humans and computers, in which humans create instructions for a computer to follow (code) in a language computers can understand.

Different programming languages enable programmers to write code that computers understand. According to a survey by Statista, the top five programming languages that developers use are:

1) JavaScript, used by 65.36%
2) HTML/CSS, used by 55.08%
3) SQL, used by 49.43%
4) Python, used by 48.07%
5) TypeScript, used by 34.83%

- **What is Python?**

Python is an interpreter, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting.

It is used for:

- web development (server-side),
- software development,
- mathematics,
- System scripting.