ASSIGNMENT 2 : EXPLAIN THE FOLLOWING CONCEPTS

a) Editor

A Source-Code Editor (or Programming Text Editor) is a software used for creating and developing projects. It is programming language sensitive and context-aware. Code editors provide an efficient way to write, debug, and modify source code, develop and handle large scale projects and often come with added functionalities which provide great aid to developers (such as auto-complete, compile/build/run). On the other hand, there are plain text editors, such as Windows' Note Pad and macOS's TextEdit, which are not language-sensitive and, therefore not suitable for writing programs

Examples of programming text editors: Visual Studio, Atom, Sublime Text , Notepad++

b) Source File

A source file is a file that contains program instructions. It contains original or essential data that is the starting point for a system of publishing or other processing.

c) Compiler

A compiler is a software program that translates computer programming code into binary code (machine code) that can be understood and executed by a specific CPU to create an executable program. Compilation is therefore the act of transforming high-level language into low-level machine language.

d) Virtual machine

A virtual machine is a computer file, typically called an image, that behaves like an actual computer giving the end user the same experience on a virtual machine as they would have on the host operating system itself. The software inside a virtual machine can't tamper with the computer itself. This produces an ideal environment for testing other operating systems including beta releases, accessing virus-infected data, creating operating system backups, and running software or applications on operating systems they weren't originally intended for

Multiple virtual machines can run simultaneously on the same physical computer. For servers, the multiple operating systems run side-by-side with a piece of software called a hypervisor to manage them, while desktop computers typical employ one operating system to run the other operating systems within its program windows. Each virtual machine provides its own virtual hardware, including CPUs, memory, hard drives, network interfaces, and other devices. Virtualisation may be implemented where the hypervisor is on bare metal or the hypervisor is hosted.

*Example of virtual machines : VMware Workstation, Hyper-V, Parallels Desktop for Mac, Oracle **VM** Server for SPARC, VirtualBox , Java VM*

e) Library modules

Library modules are built in executable files that contain collections of functions and global variables. Modules are used to break down large programs into small manageable and organized files and provide reusability of code. Modules can be imported using the *import* statement

f) Python interpreter

The Python interpreter is a virtual machine which executes python code objects. has input as instruction sets.