SOFTWARE: AN INTRODUCTION

2.1   Software: An Introduction

Software is the program that instructs a computer how to process data and generate required output.

2.2   Types of Software

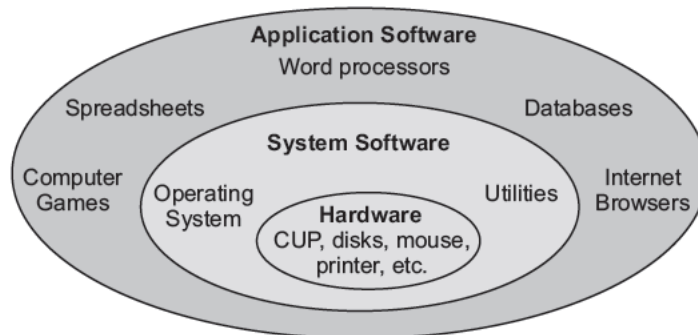Software can be divided into two categories:

System Software: A computer user does not understand the machine language (a language that a computer understands), and similarly a computer cannot understand a high-level language in which a user communicates. So, if a user wants to work on a computer system and wants to run an application program, the computer needs to have system software. *System software* can be defined as a collection of programs that performs the following functions:

■ Receiving and interpreting user commands (i.e., converting users' instructions into machine language and vice versa).

■ Running application programs and storing them in the hard disk or any other secondary storage as per the directions given by the user.

■ Retrieval of the stored programs from the hard disk or any other secondary storage device on the user's command.

■ Creates an interface among the peripheral devices and the CPU, directs and produces the results on the user's command.

Thus, it can be said that system software is responsible for the coordination of all activities in a computer system.

Application Software: *Application software* is written with a specific purpose in mind. Application software allows users to work in English or give the commands in a format that is not dependent on computer hardware. To run application software there has to be system software. Application software includes high-level language programs like basic, C, C++, Pascal, etc., or packages like Microsoft Office, Lotus Smart Suite, etc. It is not necessary for the high-level programmer to know the machine-level programming. Application software can be further classified into two categories.

■ The software development firms like Microsoft Corporation, Oracle etc., prepare general-purpose software. Software included in this category are Tally, Ex from TCS, Microsoft Office from Microsoft Corporation, and many more.

■ Tailor-made application software is prepared by software development firms according to the needs and wants of their clients. For example, software development prepared by Infosys, Wipro, TCS, and many more software development firms for their clients.

2.3   Assembler/Interpreter/Compiler

Programming languages can be classified in the three categories. They are as follows:

■ *machine language*

■ *assembly language* (LLL)

■ *high-level languages* (HLL)