

PRELUDE

Software is a general term used to describe a collection of computer programs, procedures and documentation that perform some tasks on a computer system. They are the programs that enable a computer to perform a specific task. This includes application software such as a word processor, which enables a user to perform a task, and system software such as an operating system, which enables other software to run properly, by interfacing with hardware and with other software.

Firmware: Firmware are software, programs and data that has been permanently written onto read-only memory. Firmware is a combination of software and hardware. ROMs and PROMs that have data or programs recorded on them are firmware.

Software is often divided into two categories.

- ✓ **System Software:** includes OS and all the utilities that enable the computer to function
- ✓ **Application Software:** includes programs that do real work for users.
e.g. Word processors, spreadsheets and DBMS.

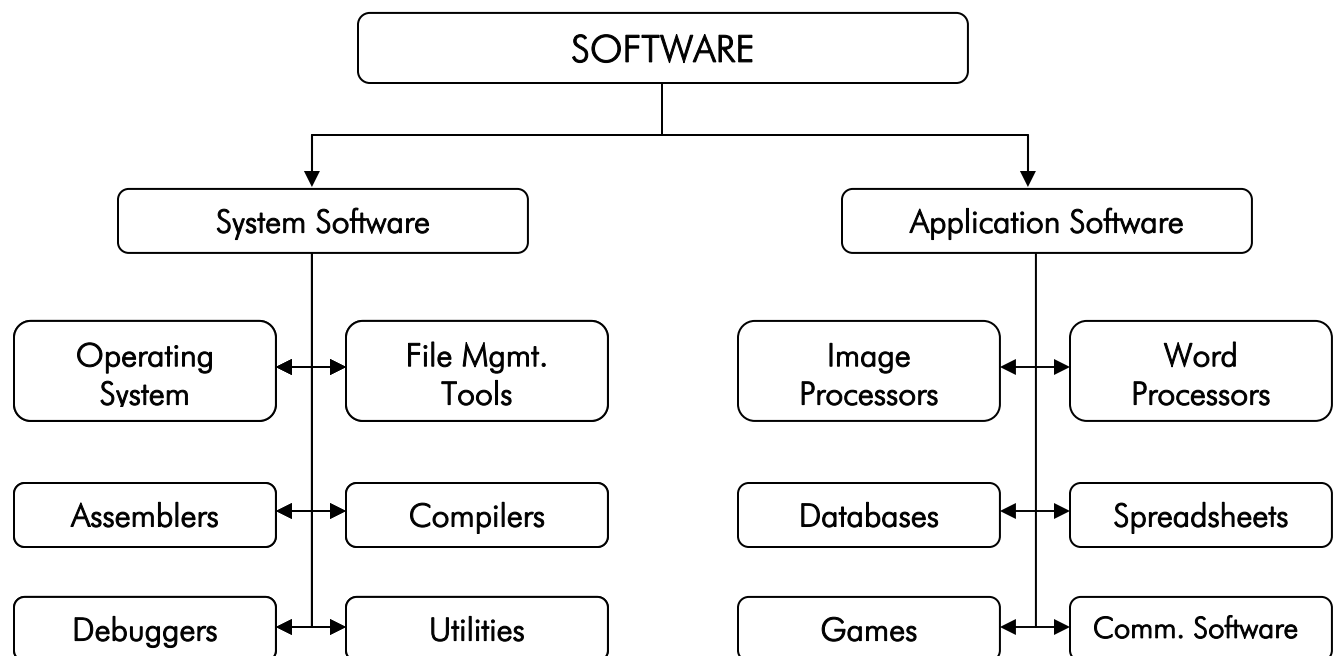


Fig: Software Types

OPERATING SYSTEMS

- ✓ are the most important programs that run on a computer.
- ✓ are the basic building blocks of any computer system that enables the smooth operation of the hardware.
- ✓ act as an interface between the user and the hardware and is responsible for the overall functioning of any computer system
- ✓ e.g. Microsoft Windows, Linux, DOS, Xenix, Mac OS, Unix

UTILITIES

- ✓ program that performs a very specific task usually related to managing system resources
- ✓ used to manage disk drives, printers and other devices attached to the system
- ✓ are small and less complex program ranging from Antivirus to compression utilities

COMPILERS AND INTERPRETERS

Compilers	Interpreters
1. Program that translates source code to object code all at once.	1. Program that translates source code to object code on one to one basis
2. Reports the errors at the end.	2. Reports the errors whenever and wherever encountered.
3. Require some time before an executable program emerges.	3. They can execute a program immediately.
4. Programs produced by compilers run much faster.	4. Programs tend to run slower compared to compilers.

WORD PROCESSORS

- ✓ is an application program that enables to perform word processing functions like create, edit, copy, update, modify and print documents.
- ✓ enables to create a document, store it electronically on a disk, display it on a screen, modify it and print it on a keyboard.
- ✓ its advantage over manual word processing is the editing facility without retyping the entire document.
- ✓ allows to move sections of text from one place to another and also make duplicate copies of the document.
- ✓ e.g. Microsoft Word, WordStar, WordPerfect, AmiPro

SPREADSHEETS

- ✓ is a tabular pad with rows and columns forming a grid where each intersection of row and column is called a cell identified by its cell address.
- ✓ used to create and manipulate spreadsheets electronically.
- ✓ The values in the cells can be interconnected using a formula.
- ✓ E.g. Lotus 123, Microsoft Excel

PRESENTATION GRAPHICS

- ✓ allows user to create highly stylized graphics/images for slide shows and reports.
- ✓ Allows to import data from spreadsheets to create charts and graphs
- ✓ Allows animation and simulation of data
- ✓ e.g. Microsoft Powerpoint, Lotus Freelance Graphics, Harvard Presentation Graphics

DATABASE MANAGEMENT SYSTEM

- ✓ A database is an organized collection of interrelated data used for multiple purposes. It arranges data and information in such a way that any specific piece of information can be easily accessed. e.g. Dictionary, Telephone directory

- ✓ Database management system is a computer program designed to manage a large set of data and run operations on data as requested by the user. It allows a user to create a computerized database, add, change, update, modify, sort, delete or retrieve data from a database. E.g. Computerized Library System, ATM, Railway Reservation
- ✓ Different DBMS support different query language but there is a semi-standardized query language called SQL (Structured Query Language)
- ✓ The commonly used database management tools: MS-Access, Oracle, MySQL, FoxPro, RBase, FoxBase, Omnis, Dbase III, Sybase, Informix

IMAGE PROCESSORS

- ✓ enables to create, edit, add special effect, view, save and print images
- ✓ include paint programs, draw programs and image editors