

Computer software

برمجيات الحاسوب

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What is **software**?

- Consists of a series of instructions that tells the computer what to do, when to do and how to do it.
- Instructions and associated data, stored in electronic format, that direct the computer to accomplish a task.
- Also called a program.
- Computer programmers write the codes/instructions that make-up software applications/programs.

Types of Software

1. System Software

برمجيات النظم

2. Application Software

البرمجيات التطبيقية

System Software

- Software that can control or maintain the operations of the computer and its devices.
- System software can be categorized as:
 - ✓ Operating system
 - ✓ Utilities and drivers
 - ✓ Programming language

Operating System Software

برمجيات نظم التشغيل

- An **Operating System** (OS) is the master controller within a computer.
- Coordinates all activities among computer hardware devices.
- An operating system interacts with:
 - All hardware installed in or connected to a computer system.
 - All software installed or running from a storage device on a computer system.

Operating System Software...

- Directs all the activities and sets all the rules for how the hardware and software will work together.
- Common operating system software:
 - ✓ Microsoft Windows
 - ✓ Mac OS
 - ✓ Network operating system (NOS)

Operating System Software...

➤ **Microsoft Windows:**

- Most popular operating system.
- Supports a vast array of application software and peripheral devices.

➤ **Examples:**

- ✓ DOS, Windows 95, 98, ME, NT, XP, 7, 8, 10

➤ **Mac OS:**

- For Apple computers.
- Does not have same functionality and support for software and peripheral devices.

➤ **Examples:**

- ✓ MAC system OS 6, 7, 8, 9, 10

Operating System Software...

➤ **Network operating system (NOS):**

- Manages network resources.
- Maintains security.
- Tracks user accounts.
- Handles communication between workstations and servers.

➤ Popular network operating systems:

Windows NT /server, Novell Netware, UNIX, Linux

Utilities and Drivers

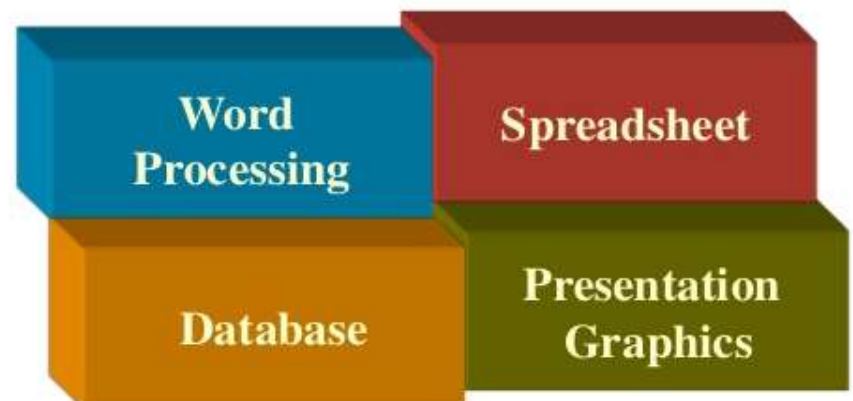
- **Utility Programs** allow the user to perform maintenance-type tasks usually related to managing a computer, its devices or its programs.
- Utilities provide file management capabilities such as copying, moving or renaming a file.
- Drivers are usually used to allow some devices to communicate with the operating system.

Programming Languages

- Basic building blocks of any software.
- Programming languages allow a programmer to write instructions that a computer can understand.
- Programming languages have some resemblance to the English language.
 - Visual basic
 - Pascal
 - Fortran
 - C++
 - Java

Application Software

- Programs designed for user oriented tasks or for specific tasks.
- Programs that work with operating system software to help the computer to do specific types of work.



Application Software...

1. **Business software:** word processors, spreadsheets, and database programs.
2. **Communication software:** allows computers to communicate with other computers
 - E.g fax software, Novell NetWare, AOL, Modem Software.
3. **Graphics software:** software that allows users to create and manipulate graphics.
 - E.g Photoshop, Print Shop, etc.

Application Software...

4. **Education and Reference software:** Programs that help teach new material and ideas, and programs that can be used to find information
 - E.g: Encarta, Worldbook Encyclopedia, Jumpstart Kindergarten
5. **Entertainment and Leisure software:**
 - E.g: Warcraft, Age of Empires, Barbie Design Center, Pacman, Solitaire
6. **Integrated software:** Combines several types of software into one program or package, Quicken (Spreadsheet /data base /communications /reference) or Print Shop (Graphics /Word processor).

Application Software...

- Productivity Software:
 - Spreadsheets
 - Databases
- Presentation Software
 - Presentation software
- Document Preparation
 - Word Processing
 - Desktop Publishing
- Project Management Software

Application Software...

- Graphics Creation and Manipulation
- Video Editing
- Internet Connectivity
- Website Creation and Management
- Financial Management
- Educational Games and Tutorials

Examples of software Usage

- What software is available for a **home user**?
 - ✓ Personal finance management
 - ✓ Web access
 - ✓ Communications
 - ✓ Entertainment
- What software is available for a **small office/home office (SOHO)** user?
 - ✓ Productivity software
 - ✓ Web usage
 - ✓ E-mail

Examples of software Usage...

What are the needs of the large business user?

- Payroll
- Inventory
- E-commerce
- Desktop publishing

Computer Applications in Society

➤ What are some examples of computer applications in society?

- ✓ Education
- ✓ Finance
- ✓ Government
- ✓ Healthcare
- ✓ Science
- ✓ Publishing
- ✓ Travel
- ✓ Manufacturing

Viruses

A virus is a program designed by a programmers (hackers) to corrupt the computer, the data and programs stored on it.

The virus has the following features:

- **Can spread very quickly.**
- **Can hide itself.**

Virus can transfer from one computer to another through:

- **Floppy disk**
- **Hard disk**
- **Flash disk, and**
- **Networks and Internet**

Virus can affect the following:

- **Floppy disk.**
- **Hard disk.**
- **Flash disk.**
- **Compact disk, and**
- **RAM.**

How to know that computer was affect by virus

- **Computer became very slow.**
- **Takes long time to boot up, and**
- **Occurrence of some problems without logical reasons.**



How to protect you computer

- **Using of firewalls.**
- **Using of up-to-date antiviruses**