

Knowledge Leveling

Overview

COMPUTER SYSTEM

What is a computer?



A computer is an electronic machine that by means of different programs is capable of receiving and processing data to solve different types of problems.

Main components:

- **Hardware:** Physical structure (electronic circuits, cables, keyboard, etc.)
- **Software:** Intangible part (programs, data, information, digital signals for internal use, etc.)

A computer is made up of two major components, **software** and **hardware**.

- The **software** is the **applications** used by the **user**, the **operating system and other programs**. Software is considered to be the **logical and intangible support** (non-physical component) of a computer system (calculator, cell phone, tablet, computer).
- The **hardware** is the **physical part**, i.e. the electronic components, motherboard, processor, RAM memory, etc

From the functional point of view, a computer is a machine that has at least one **central processing unit**, one **main memory** and some input and output **devices**.

The **input devices** allow entering data, the CPU is responsible for processing the data (arithmetic-logical operations), and the **output devices** communicate it to other media. Thus, the computer receives data, processes it and emits the resulting information.

What is an Operating System?



It is the main software, or set of programs of a computer, that manages the hardware and provides services to the other software programs, running in privileged mode.

An operating system manages the available resources (CPU, memory, etc.) and decides how to allocate them as requested and controls the execution of the programs for the prevention of errors and misuse of the system.

IMAGEN

User
Application
Operating System
Hardware

Most used operating systems



Both Windows and Linux are developed to work with any hardware, i.e. from any manufacturer. However, Mac OS X is specifically designed to work with Apple-developed hardware.

In the computer world we have a wide variety of operating systems. Some are for specific use in certain areas and others for general use.

Within this last group we find the most famous ones: **Windows** (from Microsoft), **Mac OS X** (from Apple), and **Linux** (multiple companies).

The operating system is already installed on the computer and most people do not make any changes to it.

- **Microsoft Windows:** It was developed in the 1980s.
- **Mac OS X:** It is the operating system created by Apple Inc. and comes installed on all their computers.
- **Linux Ubuntu** It's an open source operating system for computers. It's a Linux distribution.

Most used operating systems: Smartphones



The operating systems used for mobile phones, cell phones or smartphones are many, but there are 2 which are the main ones and dominate almost the entire mobile phone market: **Android and iOS**.

What is a Computer System?

It is the combination of Hardware, Software and Human Resources (people) who create and maintain the system, as well as the end users who use the resources to cover certain needs (communication, work, entertainment, etc).



Hardware



Software



Human Resources

A **computer system** is a system for storing and processing information.

It is the set of interrelated parts: hardware, software and IT staff. Hardware includes computers or any type of electronic device, consisting of processors, memory, external storage systems, etc. The software includes the operating system, and applications, with database management systems being especially important.

Lastly, human support includes the technical staff who create and maintain the system (analysts, programmers, operators, etc.) and the users who use it.

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