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An Operating System is **basically** a bunch of computer programs in single program, **including** software that lets people interact with a computer

Like microsoft office / browser and games

and

device drivers

device drivers make your mouse, keyboard camera or printer work /let's say, you want to print your documents **but** if you didn't install printer driver / your printer won't print your documents

In addition /-> The **Kernel**

The kernel is the central part of an operating system. It manages the operations of the computer softwares and the CPU.

For example / your want to turn on your flashlight in your phone all you have to do is Tap on the flashlight, and your flashlight is on.

That is the process of the kernel.

It manages computer hardware and software resources. It provides common services for computer programs.

An OS can be small (like MenuetOS), or large (like Microsoft Windows)

An operating system has many jobs. It makes sure that all the programs can use the [CPU](#), system [memory](#), [displays](#), [input devices](#), and other [hardware](#). Some also give the user an [interface](#) to use a computer. An OS is also responsible for sending data to other computers or devices on a [network](#).

Some examples of commonly used operating systems are [macOS](#), [Linux](#), and [Microsoft Windows](#).

Windows is own by Microsoft

The first version of Windows, Windows 1.0, came out on November 20, 1985. The newest version, [Windows 11](#), came out October 5, 2021. Most [personal computers](#) made after 2015 come with [Windows 10](#). However, some older or cheaper personal computers may come with [Windows 8.1](#) or [Windows 7](#).

Windows makes it easier to run [programs](#) (applications) than [MS-DOS](#) did. [DOS](#) required [typed commands](#) to make the computer do something. DOS required correct [syntax](#) of each command. Making mistakes caused the computer to usually give an [error](#) message and do nothing.

macOS, named **Mac OS X** from 2001 to 2012 and **OS X** until 2016,^[4] is an [operating system](#) (OS) for [computers](#) made by [Apple Inc.](#) These are called [Macintosh](#) computers, or Macs. It differs from other computers, as macOS is supposed to run only on Macs and not on other computers. However, people have made macOS run on computers that are not Macs. This is called [Hackintosh](#) and violates macOS' license agreement.

macOS first came out in 2001, and is completely different from the "[classic](#)" [Mac OS](#) that it replaced. Unlike the first operating system, macOS (since OS X) is based on the [UNIX](#) operating system (current versions have [UNIX 03](#) certification^[5]) and on technologies developed between 1985 and 1997 at [NeXT](#), a company that Apple co-founder [Steve Jobs](#) created after leaving Apple in 1985. The "[X](#)" in Mac OS X and OS X is the [Roman numeral](#) for the number 10 and is pronounced as such. The core of macOS is an [open source](#) OS called [Darwin](#), but Darwin itself cannot run macOS software.

macOS releases are named after kinds of big [cats](#), or [California](#) landmarks, and have a [version](#) number that starts with 10. The latest versions of macOS is [macOS](#) Big Sur (11.0).

Development

Throughout the early 1990s, Apple had tried to create a "next-generation" OS to replace its [classic Mac OS](#). The current macOS is a [UNIX](#) operating system built on technology that had been developed at [NeXT](#) from the 1980s until Apple purchased the company in early 1997. That company was also founded by [Steve Jobs](#) following his departure from Apple in 1985. There, the [Unix-like NeXTSTEP](#) operating system was developed, and then launched in 1989 (the "classic" Mac OS is much older, as it came out in 1984). The [kernel](#) of NeXTSTEP is based upon the [Mach kernel](#), which was originally developed at [Carnegie Mellon University](#), with additional kernel layers and low-level [user space](#) code from parts of [Berkeley Software Distribution](#) (BSD). Its [graphical user interface](#) was built on top of an [object-oriented GUI toolkit](#) using the [Objective-C](#) programming language.

LINUX

Linux or **GNU/Linux** is a [Unix-like operating system](#) (or family of) for computers. An operating system is a collection of the basic instructions that manage the [electronic](#) parts of the computer allowing running applications and programs. The [Linux kernel](#) (the basis of the operating system) is [free software](#), meaning people can use it, see how it works, change it, or share it.