Content

Lesson 02. Types of Software

Computer software can be put into categories based on common function, type of use.

There are two:

1. *System software*
2. *Application software*

System Software

- System software is a type of computer program that is designed to run a computer's hardware and application programs.

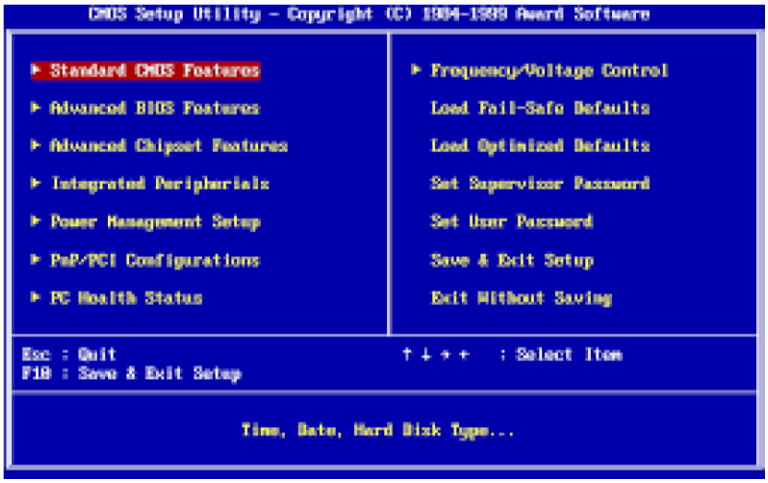
- The system software is the interface between the hardware and user applications.

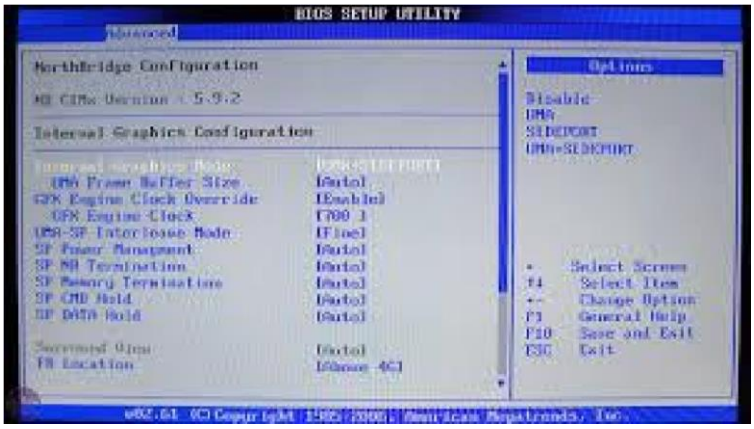
There are Three:

1. BIOS (Basic Input Output System
2. OS (Operating System)
3. Utilities (example, System Drivers)

Lesson 03. What is a BIOS?

The fundamental purposes of the BIOS are to initialize and test the system hardware components, and to load a bootloader or an operating system from a mass memory device.





Lesson 04. What is an OS?

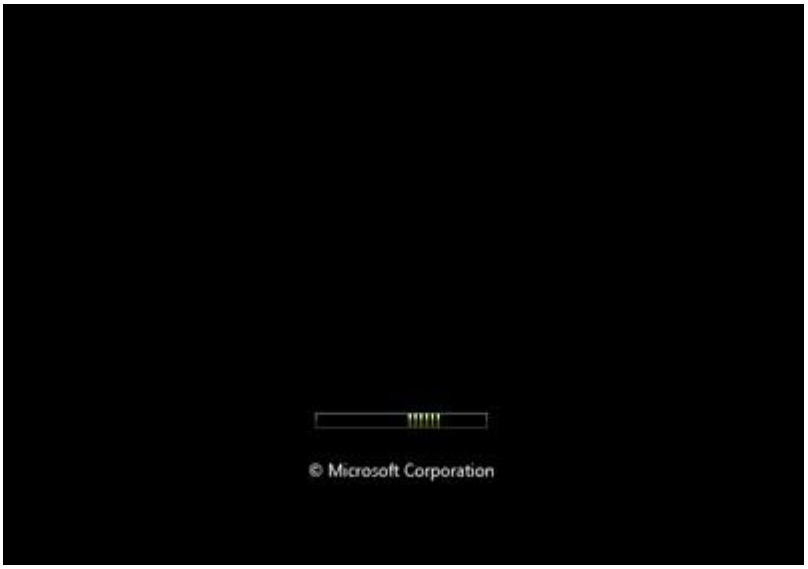
An **operating system** is the **most important software** that runs on a computer. It manages the computer's **memory**, **processes**, and all of its **software** and **hardware**. It also allows you to **communicate** with the computer without knowing how to speak the computer's "language." **Without an operating system, a computer is useless**.

The operating system's job

You've probably heard the phrase **boot your computer**, but do you know what that means? **Booting** is the process that occurs when you press the power button to turn your computer on. During this process (which may take a minute or two), the computer does several things:

- ✓ It **runs tests** to make sure everything is working correctly.
- ✓ It **checks for new hardware**.
- ✓ It then **starts up the operating system**.

In the image below, you can see the start-up screen that appears when you turn on a Windows 7 computer.



Once the operating system has started up, it **manages all of the software and hardware on the computer**. Most of the time, there are many different programs running at the same time, and they all need to access your computer's **central processing unit (CPU)**, **memory**, and **storage**. The operating system coordinates all of this to make sure each program gets what it needs. Without the operating system, the software wouldn't even be able to talk to the hardware, and the computer would be useless. In the image below, you can see how Windows 7 appears after starting up.

Lesson 05. Types of operating systems

Operating systems usually come **preloaded** on any computer you buy. Most people use the operating system that comes with their computer, but it is possible to upgrade or even change operating systems.

The three most common operating systems for personal computers are

1. **Microsoft Windows**,
2. **Mac OS X**, 3. **Linux**.

Modern operating systems use a **Graphical User Interface**, or **GUI** (pronounced "gooey"). A GUI lets you use your mouse to click on **icons**, **buttons**, and **menus**, and everything is clearly displayed on the screen using a combination of **graphics** and **text**.

Each operating system's GUI has a different look and feel, so if you switch to a different operating system it may seem unfamiliar at first. However, modern operating systems are designed to be **easy to use**, and most of the basic principles are the same.

In the images below, you can see the Windows and Mac OS X GUIs.

Before GUIs, computers had a **command-line interface**, which meant the user had to type every single command, and the computer would only display text.

Microsoft Windows

Microsoft created the **Windows** operating system in the mid-1980s. Over the years, there have been many different versions of Windows, but the most recent ones are:

- **Windows 8** (released in 2012),
- **Windows 7** (2009), and
- **Windows Vista** (2006).

Windows comes **preloaded** on most new PCs, which helps to make it the **most popular operating system** in the world.

If you're buying a new computer or upgrading to a newer version of Windows, you can choose from several different **editions** of Windows, such as **Home Premium**, **Professional**, and **Ultimate**. You may need to do some research to decide which edition is right for you.

Visit Microsoft's **Windows page** to learn more about this operating system.

Apple Mac OS X

Mac OS is a line of operating systems created by Apple Inc. It comes preloaded on all new Macintosh computers, or Macs. All of the recent versions are known as **OS X** (pronounced O-S Ten), and the specific versions include:

- **Mavericks** (released in 2013),
- **Mountain Lion** (2012),
- **Lion** (2011),
- **Snow Leopard** (2009).

According to **StatCounter Global Stats**, Mac OS X users account for **7.5%** of the operating systems market as of January 2013—much lower than the percentage of Windows users (more than **90%**). One reason for this is that Apple computers tend to be more expensive. However, many people prefer the look and feel of Mac OS X.

Linux

Linux (pronounced LINN-ux) is a family of **open-source** operating systems, which means they can be modified and distributed by anyone around the world. This is different from **proprietary software** like Windows, which can only be modified by the company that owns it (Microsoft). The advantages of Linux are that it is **free**, and there are many different **distributions** (or versions) you can choose from. Each distribution has a different look and feel, and the most popular ones include **Ubuntu**, **Mint**, and **Fedora**.

Linux is named after **Linus Torvalds**, who created the **Linux kernel** in 1991. The **kernel** is the computer code that is the central part of an operating system.

According to **StatCounter Global Stats**, Linux users account for less than **1%** of the operating systems market as of January 2013. However, most **servers** run Linux because it's relatively easy to customize.

Lesson 06. Operating systems for mobile devices

The operating systems we've been talking about were designed to run on **desktop** or **laptop** computers. **Mobile devices** such as phones, tablet computers, and mp3 players are different from desktop and laptop computers, so they run operating systems that are designed specifically for mobile devices. Examples of mobile operating systems include:

- **Apple iOS**,
- **Windows Phone** -
  Google Android.

Operating systems for mobile devices generally aren't as fully featured as those made for desktop or laptop computers, and they aren't able to run all of the same software. However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games.

Lesson 07. Utilities (Drivers)

- Sound Card
- Display Card
- NIC
- Wireless
- Camera

Lesson 08. Application Software

An application is a program, or group of programs, that is designed for the end user, Applications software (also called *end-user programs*) include such as:

- ✓ SDS (Sahalsoftware Database System)
- ✓ Microsoft Office
- ✓ DacEasy
- ✓ Quickbooks
- ✓ PDF
- ✓ VLC
- ✓ And more