

Types of Software

Be a Power Reader

Two-Column Notes Before you begin, create a table that has 2 columns and about 14 rows. As you read, write down each type of software as it is discussed. In the left column, write the software's name. In the right column, write a brief description of the software. When you have finished reading the article, review your table.

Introduction

Think for a minute about the computer system you use. It probably has a monitor, a mouse, and a case that contains electronic components such as a hard disk and the CPU (the computer's "brain"). These physical components are called **hardware**. They are the parts of the computer system that we can actually see and touch.

You may wonder how this computer hardware knows what it is supposed to do. The answer is that we give it instructions. These instructions are called **software** or **programs**.

Some software comes with your computer. Other software may be given to you, or you may buy it. Software usually comes on CD-ROMs or floppy disks. Sometimes you can download software from the Internet. Once you have the software, you install it on your machine. The software is then ready to use.

All software can be divided into two main categories:

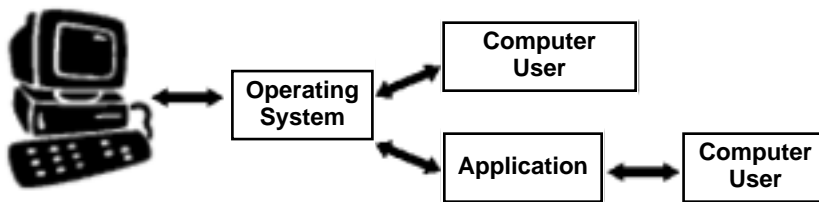
- Operating systems
- Application software

Operating Systems

Each time you start your computer, the computer loads the **operating system (OS)** into the computer's memory so that it can

be used. This process is sometimes called **booting** the system. The operating system lets you give commands to the system. When you delete old documents or move a file from one folder to another, you are using the operating system. You use the operating system to tell the computer to run an application such as a word processing or graphics application.

The operating system acts as an interface, or link, between the user and the computer hardware. Sometimes you access the operating system directly (such as when you are starting an application). But most of the time you access the operating system through an application.



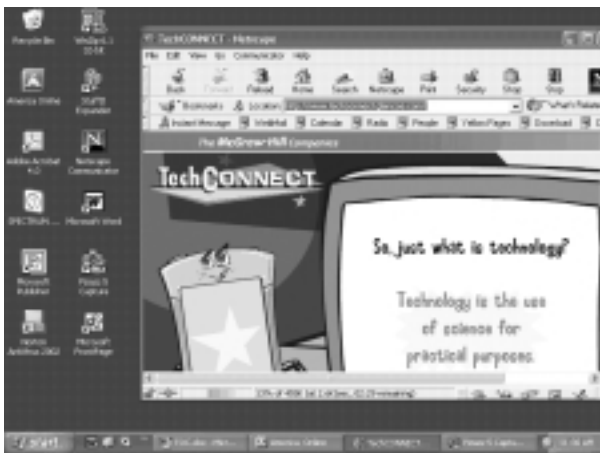
The operating system acts as an interface between the computer hardware and the user.

There are four main jobs an operating system is responsible for:

1. It provides a user interface. The user interface lets you give commands to the OS.
2. It gives instructions to the computer hardware, such as the printer and monitor.

3. It manages the way in which the computer stores data and applications.
4. It keeps track of different jobs. For example, if you are using both a spreadsheet and a word processing application at the same time, the OS will run both of these applications and let you switch back and forth between them.

There are only a few operating systems that are commonly used on microcomputers. The Microsoft **Windows**[®] operating system is the most commonly used OS on personal computers (PCs).



Windows Operating System

The **Macintosh**[®] OS is commonly used on machines built by Apple[®] Computer, Inc. Other operating systems include **Linux**[®] and **Unix**.



Macintosh OS

Applications

Applications are software programs that perform specific tasks for us. You have probably used many different types of applications. Here are some common ones:

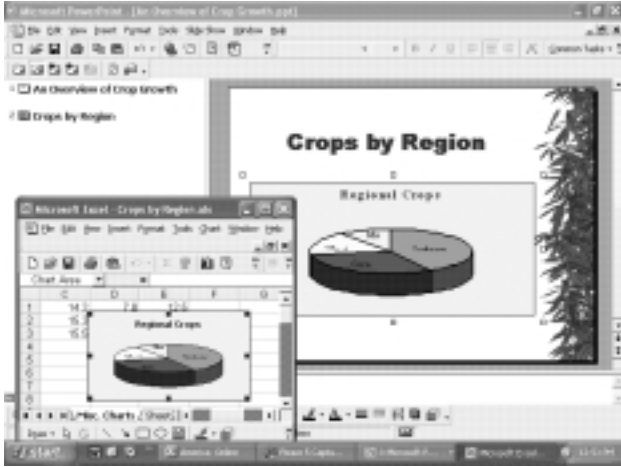
- **Activity management programs** like calendars and address books
- **Word processing applications** for creating documents that are attractively formatted
- **Spreadsheet applications** for creating documents to manage and organize numerical data
- **Presentation applications** for making slide shows
- **Graphics applications** for creating pictures
- **Database applications** for developing databases that can organize and retrieve large amounts of information
- **Communications programs** like e-mail and faxing software for sending and receiving messages
- **Multimedia applications** for creating video and music
- **Utilities** for performing a variety of tasks that maintain or enhance the computer's operating system

Applications often use functions that are part of the computer's operating system. Let's say that a word processing application needs to get a document that is stored on your computer's hard disk. The word processing application issues a request for the document to the operating system. The OS then gets the document and sends it to the word processing application. Likewise, when you tell an application to print a document, the application uses the OS to send output to the printer.

Common Features

You have probably noticed that many applications have similar features. For example, the way that you save a document in a word processing application is

very similar to the way that you save a worksheet in a spreadsheet application. The buttons on the toolbars are often identical or very similar. Many applications let you “copy” and “paste” between them. You might create a chart in a spreadsheet application and then copy the chart into a slide show you are making. This ability to copy and paste between applications lets you work efficiently.



Many applications allow you to copy and paste text and graphics between them.

Most applications, including word processing, spreadsheet, and presentation applications, contain easy-to-use drawing tools. These tools let you create simple drawings for your documents. To create complex drawings, you will want to use a graphics application.

Utilities

Utility programs are generally fairly small. Each type has a specific job to do. Below are some descriptions of utilities.

- **Anti-virus applications** protect your computer from the damage that can be caused by viruses and similar programs.
- **Compression utilities** make files smaller for storage (or sending over the Internet) and then return them to normal size.
- **Data recovery utilities** attempt to restore data and files that have been damaged or accidentally deleted.
- **Disk defragmenters** reorganize the data stored on disks so that it is more efficiently arranged.
- **Firewalls** prevent outsiders from accessing your computer over a network such as the Internet.

Conclusion

Both operating system software and applications have specific jobs to perform. It is important to realize that the OS you are using must be compatible with your hardware. Each type of OS is designed to run on a specific type of computer. In addition, the application you are using must be compatible with the OS. For example, there is a version of Microsoft Excel for Windows and another version for the Macintosh OS. In order to run this application on your computer, you must have the version that is compatible with your operating system.



Review Questions

1. How is an operating system different from an application?
2. What type of operating system does your computer use? What are three applications you have used?
3. List three functions of an operating system.
4. List four types of utility programs and explain each one's purpose.



What Do You Think?

1. Have you used more than one type of operating system? If so, which one do you like best? Why?
2. Examine the computer you use. What types of utility programs does it contain? Have you used any utility programs? If so, were they helpful to you? How?
3. Can you think of any ideas for a new type of utility application? Try to think of one that you would find useful. What features would it have?

Glossary

activity management program An application that helps manage people's information and time, such as address books and calendars.

anti-virus application An application that scans a computer's disks and memory for viruses and removes any that are found.

application software A type of computer program that creates and processes data. Also called *application*.

boot To start up a computer by loading the operating system into memory.

communications program Software that lets you send and receive messages, such as e-mail and faxing programs.

compression utility An application used to reduce the amount of storage space required for files or data.

database application Software used to create databases.

disk defragmenter A utility that attempts to reorganize the data stored on a disk so that it is more efficiently arranged and takes up less space.

firewall An application that prevents an outsider from accessing a computer over a network such as the Internet.

graphics application Software that is used to create, display, and store pictures.

hardware The physical, touchable components of a computer system, such as the CPU, keyboard, and monitor.

Macintosh® OS The operating system that runs on machines built by Apple® Computer, Inc.

multimedia application Software used to create video and sound such as music.

operating system (OS) The control program that provides an interface for users to communicate with the computer.

presentation application Software used to create slide show presentations and reports.

software A list of instructions that a computer can execute (carry out) to perform a task. Also called a *program*.

spreadsheet application Software used to create documents to manage and organize numerical data.

utility An application that performs a specific task in maintaining or enhancing the operating system.

Windows® A family of operating system products developed and produced by Microsoft Corporation.

word processing application Software used to create word-based documents that can be easily edited and stored.