

1. Basic Computer Concepts and Terms

Overview

A computer is a machine that can follow commands. Because a computer can follow commands, it can produce many different forms of information. These information forms include words, numbers, images, graphics, and sounds.

This part is about what a computer does, basic computer terms, and the kinds of information that a computer can process.

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What a computer does

A computer produces information in three steps:

1. Data Input: The computer is given data (information in a form that the computer can process).

2. Data Processing: The computer is given commands that tell it what to do with the data.

3. Data Output: The computer displays the results of following these commands.

Data Input

Words
Information
Numbers
Images
Graphics
Sounds



Data Processing

Add
Delete
Copy
Save
Join
Print



Data Output

Documents
Databases
Spreadsheets
Photographs
Pictures
Recordings

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Basic computer terms

Data: Information given to the computer in a form that the computer can process. Examples: numbers, words, sounds, images

Hardware: All the parts of the computer that you can actually see and touch. Examples: keyboard, monitor, computer cabinet

Computer Program: A set of commands that tell a computer how to process data. For the personal computer, there are several types of programs:
Application Programs: Used to process a specific kind of

data.

Examples: Microsoft Word, Microsoft Excel

Operating Systems: Used to run application programs.

Examples: Microsoft Windows, Linux, Mac OS

Utility Programs: Used to protect and maintain the operating system.

Example: Norton Utilities

Communication Programs: Used to communicate with other computers.

Examples: Microsoft Internet Explorer, Microsoft Outlook, AOL Instant Messenger

Programming Language: A vocabulary and set of grammatical rules for writing computer commands.

Examples: BASIC, C++, Java

Software: Anything that can be stored electronically by a computer. Software usually refers to computer programs but can also refer to data.

User Interface: The things you touch and look at in order to communicate with a computer.
Examples: keyboard, mouse, monitor

Data File: A collection of data that has been given a filename, a unique name that distinguishes one file from another and identifies what kind of data the file contains.

Examples: story.doc, bird.jpg, noise.wav

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Data file types

These are some common filename extensions:

Data files contain the information that a computer needs to process and display a specific output such as a letter, a photograph, sounds, or an application program. There are several different file types that are identified by *filename extensions*, letters that are attached to the end of the filename. The file type identifies the kind of program that is needed to view and do work on the file.

.exe

.txt

.log

.doc

.jpg

.bmp

.gif

.ai

.psd

.wav

.mpg

.avi

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Program files

Files that have an .exe extension are computer program files, commonly called “programs.” Programs respond to your commands in order to create an output such as a document or a picture.

A computer operating system (such as Windows) is a special program that allows you to run other programs.

After you open a program file with the operating system, you can use the program to create some form of information.

For example, after you use Microsoft Windows to open Microsoft Word, you can use Word to write a letter.

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Text files

Some common text file extensions are .txt, .log, and .doc. If you open a file with one of these extensions using an appropriate program, such as Microsoft Word, you will see a text document such as a book, letter, or report.

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Image files

Images that are input into a computer from a digital camera or scanner can have a number of different extensions such as .jpg, .bmp, or .gif.

If you open a file with one of these extensions using an appropriate program, such as Microsoft Photo Editor, you will see an image.

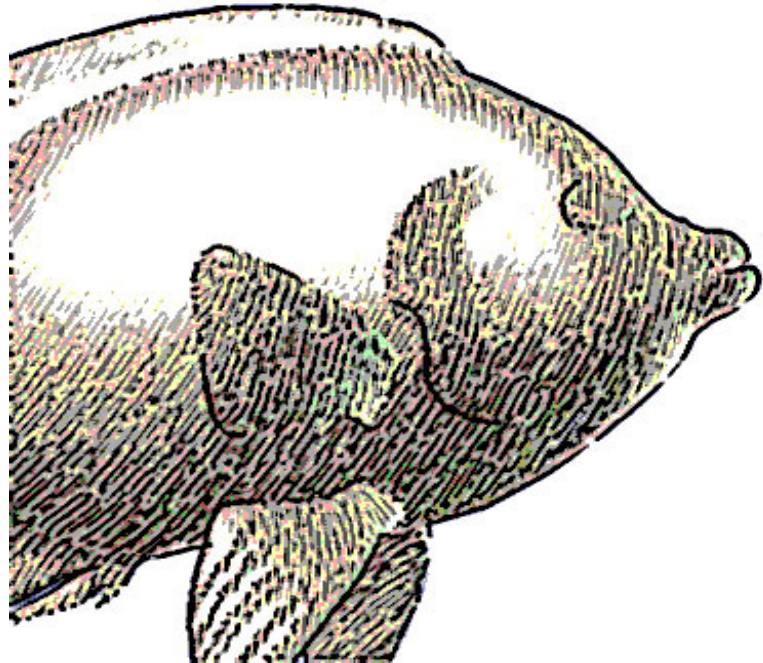


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Graphics files

Graphics that are input into a computer using a mouse or graphic tablet usually have file extensions that identify the program that was used to create the graphic file.

Adobe Illustrator files, for example, use the extension .ai. Because graphics, like images, are seen, they can also be saved as image files.



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Sound files

Sound files have extensions such as .wav or .mpg. If you open a file with one of these extensions using an appropriate program, such as Windows Media Player, you will hear a sound.

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Video files

Video files often use the extension .avi. If you open a file with this extension using an appropriate program, such as Windows Media Player, you will see a video.

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