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## Software



Javier has just bought a new computer. Now he has to decide what software will need.

The first doubt about the operating system: Windows, Linux... What a difficult decision!!!!

Then Javier is going to make a list of the application software which is essential for his job and leisure.

And at the end he will have to restore the data from his old computer.

Today Javier will work just with the software.



Computer software or just software, is a collection of computer programs and related data that provides the instructions for telling a computer what to do and how to do it. Software refers to one or more computer programs and data held in the storage of the computer for some purposes.

In other words, software is a set of programs, procedures, algorithms and its documentation concerned with the operation of a data processing system.

Program software performs the function of the program it implements, either by directly providing instructions to the computer hardware or by serving as input to another piece of software.

In contrast to hardware, software "cannot be touched". Software is also sometimes used in a more narrow sense, meaning application software only. Sometimes the term includes data that has not traditionally been associated with computers, such as film, tapes, and records.

Computer systems divide software systems into three major classes: system software, application software and programming software, although the distinction is arbitrary, and often blurred.

## System Software

## Operating System



### Choosing among Windows Vista, Linux and Macintosh OS X

Windows is no longer your only option when choosing an operating system for the PC platform. A much more affordable Linux distribution is one choice. And the lower-priced Mac line provides an incentive for those interested in switching. If you suffer buyer's remorse, you can always run Windows Vista on your new Mac.

### WHAT'S AVAILABLE

Windows Vista offers an array of improvements over XP aside from visual enhancements, new multitasking features and simpler home-network setup. On the safety side, there's beefed-up browser and e-mail security, increased control over software installation, a two-way firewall, hard-drive encryption, and a technology that blocks malicious software. Windows Media Center, which offers more user-friendly multimedia tasks, is built into Vista Premium and Vista Ultimate, though it's littered with subscription-based content partnerships. The search function can now include other storage devices or even the Internet. A feature called SideBar displays information such as weather reports and stock quotes. Plus, Windows Backup is automated and now lets you create a full drive image for disaster recovery. Microsoft offers three versions of Vista: the stripped-down Home Basic (\$200; \$100 for the upgrade version), Home Premium (\$240; \$160 upgrade), which adds the snazzy Aero interface (you'll need a compatible graphics processor), Media Center, DVD Maker, Movie Maker HD, Backup scheduler, SideShow (allows the use of auxiliary displays), Sync Center (synchronizes files with other PCs on your network), and parental controls, and Ultimate (\$400, \$260 upgrade), which adds support for dual CPUs, Remote Desktop host (formerly in Windows XP Professional), file encryption (with full-drive BitLocker capability), faxing,

domain-based networking (for office networks) and Web hosting.

Apple computers come with Mac OS X, an operating system based on Unix. Mac OS is considered by many to be easier to learn and use than Windows, and it's more secure against online threats because it's less of a target for malware writers. New features in Mac OS X's Leopard (10.5) upgrade (\$150) include an automatic backup tool and a reorganized desktop. A souped-up e-mail application lets you create automatic greeting cards and invitations and turn e-mails into to-do list tasks or calendar items. The new Dashboard lets you create your own on-screen widgets, or mini-applications. And the new Safari browser lets you make a widget out of a live Web site. The Spotlight tool can now search servers and networks. You can preview files without launching their applications and search for files by attributes. You can even run Windows Vista. With a feature called Boot Camp, you can set up a dual boot on your Mac that lets you run any version of Windows on one partition and Leopard on the other.

Linux, a free operating system with source code anyone can modify, is most appropriate for users who aren't intimidated by technology. One of the most popular versions is Ubuntu. The default package includes an office-productivity suite, a photo editor, disc burning and copying software, a chat program, and a browser. You can download additional software online. The only things you won't find are sophisticated 3D games. But many of those apps might not be fully compatible with equivalent Windows and Mac software, and that could cause problems if you transition from home to work or school. Another problem is that Ubuntu supports only open-source music and video formats out of the box. You'll need additional software to access other file formats such as MP3 or iTunes. What's more, many hardware vendors don't supply Linux drivers, so you might have problems using your peripherals. Drivers that are available aren't always reliable, and they might not be up to date or provide full support. Tech support costs \$65 to \$275 per year, potentially offsetting the savings of a free OS, and not all shops provide Linux service. On the plus side, Linux is less vulnerable to viruses and spyware than Windows, and a free firewall program is available.

## HOW TO CHOOSE

Upgrading your existing Windows PC to Vista might involve software, driver and even hardware upgrades. (Microsoft provides an online tool to help determine whether your computer can support Vista.) Of the three versions, we recommend Home Premium for its visual enhancement potential and its inclusion of Media Center. If you just want Media Center, there's a version of XP that includes it. And if you want some of Vista's enhancements without the upgrade hassles, you can "pimp up" your XP with Internet Explorer 7, Media Player 11, and Windows Defender. If Vista does

nothing for you, you can still buy a new PC with XP. Microsoft is allowing vendors to offer the older OS with new PCs if they so choose. Dell is one vendor currently offering selected models with the older OS.

Apple's new OS X Leopard offers a lot of enhancements and we do prefer Apple's hardware for its superior tech support and reliability. If you just have to have Vista, Apple's Boot Camp lets you have both.

As for Linux, you'll need more than just a casual knowledge of operating systems, because the interface is not entirely graphical. Plus, application compatibilities might present problems for many users. If all you do is Web browsing and e-mail you can probably get by, but if you use a wide variety of applications, you're better off passing on Linux.



Translate these terms and expressions into your own language. Use a dictionary or the Internet to help you.

1. user interface
2. procedures
3. commands
4. tools
5. desktop
6. nested folders
7. launch program
8. source code

## Linux vs Windows

### LINUX VS WINDOWS



Make a list of likes and dislikes of Windows and Linux. Send it to the teacher.

## Application Software



Application software is developed to perform in any task that benefits from computation. It is a set of programs that allows the computer to perform a specific data processing job for the user. It is a broad category, and encompasses software of many kinds, including the internet browser being used to display this page. This category includes:

- Business software
- Computer-aided design
- Databases
- Decision-making software
- Educational software
- Image editing
- Industrial automation
- Mathematical software
- Medical software
- Molecular modeling software
- Quantum chemistry and solid state physics software
- Simulation software
- Spreadsheets
- Telecommunications (i.e., the Internet and everything that flows on it)
- Video editing software
- Video games
- Word processing

## Word Processor



A word processor, or word processing program, does exactly what the name implies. It processes words. It also processes paragraphs, pages, and entire papers. Some examples of word processing programs include Microsoft Word, WordPerfect (Windows only), AppleWorks (Mac only), and OpenOffice.org.

The first word processors were basically computerized typewriters, which did little more than place characters on a screen, which could then be printed by a printer. Modern word processing programs, however, include features to customize the style of the text, change the page formatting, and may be able to add headers, footers, and page numbers

to each page. Some may also include a "Word Count" option, which counts the words and characters within a document.

While all these features can be useful and fun to play with, the most significant improvement over the typewriter is the word processor's ability to make changes to a document after it has been written. By using the mouse, you can click anywhere within the text of a document and add or remove content. Since reprinting a paper is much easier than retyping it, word processing programs have made revising text documents a much more efficient process.

The term "text editor" can also be used to refer to a word processing program. However, it is more commonly used to describe basic word processing programs with limited features.



#### Fill in the blanks

Read the paragraph below and fill in the missing words.

The lists the icons to save or print a document, spell check, etc.

A font consists in three elements: typeface, type style and type . For example, Times New Roman, bold 10 points.

Type style refers to a visual characteristic of a typeface, for example B for , I for , and U for Underlined.

If you need to change indentation - the space between the page and where the text aligns - you can click the increase or Decrease buttons

## Spreadsheets



A spreadsheet is a document that stores data in a grid of horizontal rows and vertical columns. Rows are typically labeled using numbers (1, 2, 3, etc.), while columns are labeled with letters (A, B, C, etc.). Individual row/column locations, such as C3 or B12, are referred to as cells. Each cell can each store a unique instance of data. By entering data into a spreadsheet, information can be stored in a more structured way than using plain text. The row/column structure also allows the data to be analyzed using formulas and calculations.

For example, each row of a spreadsheet may store information about a person who has an account with a certain company. Each column may store a different aspect of the person's information, such as the first name, last name, address, phone number, favorite food, etc. The spreadsheet program can analyze this data by counting the number of people who live in a certain zip code, listing all the people who's favorite food is fried veal, or performing other calculations. In this way, a spreadsheet is similar to a database.

However, spreadsheets are more streamlined than databases and are especially useful for processing numbers. This is why spreadsheets are commonly used in scientific and financial applications. For example, a spreadsheet may store bank account data, including balance and interest information. A column that stores the account balances of several clients can easily be summed to produce the total value of all the clients' balances. These amounts can be multiplied by the interest rate from another cell to see what the value of the accounts will be in a year. Once the formula has been created, modifying the value of just the interest rate cell will also change the projected value of all the accounts.

The most commonly used spreadsheet application is Microsoft Excel, but several other spreadsheet programs are available including IBM Lotus 1-2-3 for Windows and AppleWorks and Numbers for Mac OS X.





To know more

Excel tutorial for beginners!

Write the instructions to create a new spreadsheet, and send it to the tutor

## Databases



A



database is a data structure that stores organized information. Most databases contain multiple tables, which may each include several different fields. For example, a company database may include tables for products, employees, and financial records. Each of these tables would have different fields that are relevant to the information stored in the table.

Nearly all e-commerce sites uses databases to store product inventory and customer information. These sites use a database management system (or DBMS), such as Microsoft Access, FileMaker Pro, or MySQL as the "back end" to the website. By storing website data in a database, the data can be easily searched, sorted, and updated. This flexibility is important for e-commerce sites and other types of dynamic websites.

Early databases were relatively "flat," which means they were limited to simple rows and columns, like a spreadsheet.



(See also "flat file database"). However, today's relational databases allow users to access, update, and search information based on the relationship of data stored in different tables. Relational databases can also run queries that involve multiple databases. While early databases could only store text or numeric data, modern databases also let users store other data types such as sound clips, pictures, and videos.



Database tutorial for beginners



#### Fill in the blanks

Read the paragraph below and fill in the missing words.

Information in database is entered via

A database can manage any type of including text, numbers, images, sound, video and hyperlinks

Each field holds separate piece of information, and the fields are grouped in

A database allows you to extract information from the database according to certain conditions

## Programming Software



A programming language is a set of commands, instructions, and other syntax use to create a software program. Languages that programmers use to write code are called "high-level languages." This code can be compiled into a "low-level language," which is recognized directly by the computer hardware.

High-level languages are designed to be easy to read and understand. This allows programmers to write source code in a natural fashion, using logical words and symbols. For example, reserved words like function, while, if, and else are used in most major programming languages. Symbols like <, >, ==, and != are common operators. Many high-level languages are similar enough that programmers can easily understand source code written in multiple languages.

Examples of high-level languages include C++, Java, Perl, and PHP. Languages like C++ and Java are called "compiled languages" since the source code must first be compiled in order to run. Languages like Perl and PHP are called "interpreted languages" since the source code can be run through an interpreter without being compiled. Generally, compiled languages are used to create software applications, while interpreted languages are used for running scripts, such as those used to generate content for dynamic websites.

Low-level languages include assembly and machine languages. An assembly language contains a list of basic instructions and is much more difficult to read than a high-level language. In rare cases, a programmer may decide to code a basic program in an assembly language to ensure it operates as efficiently as possible. An assembler can be used to translate the assembly code into machine code. The machine code, or machine language, contains a series of binary codes that are understood directly by a computer's CPU. Needless to say, machine language is not designed to be human readable.

## Programming Language: Java



While most of the world uses "Java" as another term for coffee, the computer science world uses it to refer to a programming language developed by Sun Microsystems. The syntax of Java is much like that of C/C++, but it is object-oriented and structured around "classes" instead of functions. Java can also be used for programming applets -- small programs that can be embedded in Web sites. The language is becoming increasingly popular among both Web and software developers since it is efficient and easy-to-use.

Java is a great programming language, but like Reading Rainbow says, you don't have to take my word for it. Sun Microsystems describes Java as a "simple, object-oriented, distributed, interpreted, robust, secure, architecture-neutral, portable, high-performance, multithreaded, dynamic, buzzword-compliant, general-purpose programming language." And it removes stains like magic.