What is software?

Software is another name for computer programs. Computer software includes instructions to tell the computer what to do (such as saving and formatting your text in a word processing document) and the data needed to do that job (such as fonts). (Software are the fundamental units of computer that gets our job done. While our jobs may be of various categories such as writing letters to shopping to some sort of entertainment, there are softwares to perform these jobs. Generally, a software performs a particular type of work.)

Usually we think of software as big programs like Corel Painter, Microsoft Word, or games like World of Warcraft or Halo. These are forms of computer software called applications. Applications include practical software, such as programs for office or artwork, as well as entertainment software for gaming and multimedia. As well as these applications, there are other types of software for running the computer system, such as device drivers (to run your graphics, wireless and sound cards) and helping applications to run.

The basis of computer software is its 'code'. This is the set of instructions which tells the computer what to do. It can be as simple as one line - "print 'Hello World' - or run to many millions of lines of code. There are many programming languages used to write software, with most modern languages using a strict 'grammar' or syntax, but using familiar symbols and abbreviations to make the programmer's job easier.

Because software is basically just a long list of instructions, it can easily be corrupted. So it's important to keep backup copies and ensure that your software comes from a reliable source and is free of malicious code (viruses).

What is an Operating System?

The operating system, or OS for short, is the collection of programs and data that runs your computer. The operating system manages the computer hardware and helps to make your progrmas run efficiently. Part of its job is to work like a 'traffic controller', controlling the flow of information in and out of memory, and between various parts of your computer, such as video and sound output.

Any computerised device has an operating system of some sort. You'll be familiar with operating systems such as Mac OSX, Windows 7, and Unix. You'll also find operating systems on mobile hardware, such as the popular Android operating system for small mobile devices. Although many operating systems come bundled with software (such as Office software and games), these are not part of the operating system itself.

Your choice of operating system influences what software you can run, as some software will only run on certain operating systems (though there are tools such as 'Crossover' and 'Wine' which can help with this.) Some operating systems are more secure than others. Some operating systems are designed for beginner users and are auto-configured as much as possible, while others are designed for advanced users and require some knowledge of computer systems and manual configuration. (this part isn't very good, can you make it better? what else do we need to know about operating systems?)

Your choice of operating system influences what software you can run. A software running on a particular opearting system may not run on some other operating system. To avoid such problems, Linux offers some software solutions like WINE (which is free) and Windows offers CYGWIN (which is again free) . Operating Systems are defined for various purposes. Some operating systems may be apt for beginners while may loose out on security and other aspects which may be desired by other users. Again operating systems runniing on mobiles may not run on a standard computers. Some operating systems may offer a high degree of customization while other operating system may offer little customisations in terms of system configuration. On the other hand, some operating system may be optimised for scientific computations, multimedia work(such as video editing etc) or hosting a web server.

What is Free Software?

Free Software belongs to you. You are free to study, share and modify free software.

To ensure the protection of your software and your rights, Free Software is protected by licenses. The most commonly used license is the GNU General Public License (GPL), which is written by the Free Software Foundation.

Because anyone can study, share and modify Free Software, it is the perfect medium for collaboration. People work together from all over the world to develop Free Software - including corporations and government agencies, students, universities, and volunteers who believe in software freedom.

For some people Free Software is a political and ethical choice. The believe that software should belong to everybody, and that sharing knowledge and building on each other's work is the best way forward. It's important to understand that this belief doesn't give us the right to share or study non-free software: we cannot take away another developer's right to choose. So we choose Free Software, and work legally and freely under its protective license.

For other people free software is simply a practical choice. Because you can study and change the source code, free software allows you to tailor applications to suit your needs, to adapt them to new hardware or to make them more secure. You can find and fix mistakes in other people's software.

One of the fun things about free software is that not only is it often free of charge, but it gives you freedom to create and be involved. Most free software is developed by volunteers who collaborate over the internet. As a free software user, you can contribute to your favorite free software projects in many ways. And by being involved, be it in coding or in other areas, you can learn new skills and have some fun while working with all these motivated international contributors! (click here to find out more).