I want to talk a little bit about computer hardware.

A computer is an electronic machine which can accept data in a certain form, process the data, and give the results of the processing in a specified format as information.

A computer system consists of two parts: hardware and software. Hardware is any electronic or mechanical part you can see or touch. Software is a set of instructions, called a program, which tells the computer what to do. There are three basic hardware sections: the central processing unit (CPU), main memory and peripherals. The processor can process billions of operations per second and consists of three main parts:

■ The control unit examines the instructions in the user's program, interprets each instruction and causes the circuits and the rest of the components - monitor, disk drives, etc. - to execute the functions specified.

■ The arithmetic logic unit (ALU) performs mathematical calculations (+, -, etc.) and logical operations (AND, OR, NOT).

■ The registers are high-speed units of memory used to store and control data. One of the registers (the program counter, or PC) keeps track of the next instruction to be performed in the main memory. The other (the instruction register, or IR) holds the instruction that is being executed.

Quad Core CPUs are a further refinement of the multi-core CPU design and feature four cores on a single CPU. Just as dual core CPUs could split the workload between two cores, quad cores allow for even greater multitasking. These types of CPUs are useful for people that need to run a lot of different programs at the same time as well as gamers, as there are a lot of games **optimized** for multi-core CPUs.

The programs and data which pass through the processor must be loaded into the main memory in order to be processed. Therefore, when the user runs a program, the CPU looks for it on the hard disk and transfers a copy into the RAM chips. RAM (random access memory) is volatile - that is, its information is lost when the computer is turned off. RAM capacity can be expanded by adding extra chips. However, ROM (read only memory) is non-volatile, containing instructions and routines for the basic operations of the CPU. The BIOS (basic input/output system) uses ROM to control communication with peripherals.