Homework 1

1. Three kinds of information stored in a computer are numbers, text, and images.
2. Two functions of the CPU are coordinating computer operations and performing operations that are arithmetically and logically based.
3. Two input devices are a keyboard and a mouse. Two output devices are a monitor and a printer. Two secondary storage devices are hard disks and a flash drive.
4. The three categories of programming languages are machine languages, assembly languages, and high-level languages. Machine language is a non-standardized language that is a collection of binary numbers, thus resulting in it rarely being used by developers. Assembly languages are languages where computer operations are identified through mnemonic codes; also variables can also be represented through names instead of binary addresses. High-level languages are languages that utilize algebraic expressions and a more English friendly syntax.
5. A syntax error is an error that is caused by the program being grammatically incorrect based upon the languages grammar rules.
6. To transform a C program into a machine language program that is ready to be executed the C file is first sent through a compiler. The compiler attempts to translate the program into machine code and if successful it is transformed into an object file, which is then sent through a linker. The linker resolves cross references among various object files and creates an executable. The loader then copies the executable into memory and initiates execution.
7. A memory cell is comprised of a grouping of bytes. These bytes store a single character in a memory cell. This single character is composed of a combination of bits which represents the binary value of the character stored in the byte.
8. Three high-level languages are C, Perl, and Java. C was used for the development of UNIX but is now used for a wide variety of applications. Perl is used for the development of interactive web pages and network programming. Java is used for a wide variety of applications but is commonly used for Web programming and Android development.
9. RAM stand for random access memory and is used as temporary storage of program and data while the program is executing and it then demonstrates volatile properties. ROM stands for read only memory and it stores information permanently that the computer can only read from, not write to. So the differences between the two are that RAM is volatile and can be written to and ROM is permanent storage and cannot be written to.
10. The World Wide Web is a gateway that allows the user to interact with Internet accessible resources through the use of a GUI.