Definitions

* Hardware: computer components include; central processing unit (CPU), main memory (MM) also called random access memory (RAM), input/output devices (keyboard, mouse, monitor, printer etc.), secondary storage (SDD, HDD)
  + CPU: the brain of the computer
    - Control unit (CU)- fetch, decode instructions, control flow of information in/out, and control operation of CPU internal components
    - Arithmetic logic unit (ALU)- carries out all arithmetic and logical (decision-making) operations
    - Instruction register (IR)- holds instruction currently being executed
    - Program counter (PC)- points to the next instruction to be executed
  + Main Memory: Directly connected to CPU, all programs must be loaded into main memory before they can be executed; similarly, all data must be brought into main memory before a program can manipulate it
  + Secondary Storage: A device that stores long-term information/data
  + Input/Output Devices: input devices feed data into the computer; contrarily, output devices receive data being output by the computer
* Software: Programs written to perform specific tasks, ie. Word, PowerPoint, Windows
* Analog Signals: continuous waveforms used to represent things such as sound
* Digital Signals: represent information with a sequence of 0s and 1s – machine language
* Machine Language (binary code): a sequence of 0s and 1s
* Binary Digit (BIT): a 0 or 1 in machine language
  + Byte, Kilobyte, Megabyte, Gigabyte, Terabyte, Petabyte, Exabyte, Zettabyte
* American Standard Code for Information Interchange (ASCII): most common encoding scheme on personal computers. Every letter, number, and special character on the keyboard is encoded as a sequence of bits, each having a unique representation.
* Assembly Language: an instruction in an easy to remember form called mnemonic
  + LOAD, STOR, MULT, ADD, SUB
* Assembler: A program that translates a program written in assembly language into an equivalent program in machine language
* High-level Language: programming languages that are closer to natural languages such as English, French, German
* Compiler: translates instructions written in high-level languages into machine code
* Syntax: Rules of a high-level language
* Source Code (source program): A program written in high-level language
* Object Program: the machine language version of the high-level language program
* Integrated Development environment (IDE): A program used to write a high-level language, such as DEV C++
* Linker: A program that combines the object program with other programs in the library, and is used in the program to create the executable code
* Loader: A program that loads an executable program into main memory
* Algorithm: A step-by-step problem solving process in which a solution is arrived at in a finite amount of time
* Structured Design: dividing a problem into smaller sub-problems
* Structured Programming: implementing a structured design into programming
* Object-oriented Design (OOD): A widely used programming methodology