

Program - set of computer instructions that direct a computer to perform a task.

CPU - Central Processing Unit - Processes the machine language instructions.

C++ → Converted to machine language instructions

Computer Hardware - CPU (brains of the computer), Persistent Storage (usually hard drive), RAM (Random Access Memory)

Computer Software - BIOS (written by the computer manufacturer and it is the program that loads the OS), OS - Operating System (User Interface/User Experience), Our Program(s)

Algorithm - Plan how to solve a problem.

Executable - program in machine language format (ready to run).

Machine Language - Language understood by the CPU.

Reusable Code - Save time, money, and aggravation (doesn't have to be tested again) by re-using existing code

High Level Code - Requires less programmer effort, but runs slower (inefficient) and is larger (more memory)

Low Level Code - Requires more programmer effort but runs faster and smaller.

High Level Languages - JAVA and .NET

Low Level Languages - Cobol, Fortran, Assembly (machine language)

Medium Language - C++ has objects (high level) but it is translated by the compiler into machine language (which is fast) and it can directly access computer memory (low level).

How a C++ program is created:

Source Code .CPP (source code) files and .H (header files) → preprocessor →

combines the source code with the header files → compiler → produces machine language

for each file. Compiler also checks for syntax errors → linker → combines all the binary (machine language) files into an executable.