Stage of programming compilation

Created a program is a process of multi-stage. In based to the general requirement, the way for divide the process is in four stage. **Preprocessing**, **compilation**, **assembly**, and **linking**.

The compilation is first started with the preprocessing stage. In this part of the compilation, the preprocessor stage helps to removes comments and to interpret preprocessor directives. These directives are statements that begin with "#" (i.e. #include). All in all, this stage helps to reduce repetition in the source code.

The compilation stage, which allows for the preprocessed code to be translated to assembly instructions. This allows for readable instructions to be produced that the user can understand and easily convert into machine-level language.

Assembly, an assembler is used to translate the assembly instructions to object code. The output consists of actual instructions to be run by the target processor.

The final stage is linking. This is the part where pieces of the object code get arranged so that it can successfully call on other functions. This stage is also able to link parts from library functions because the C language has a wealth of precompiled libraries that the user can pull codes from! At the end of it all, the links of object files will help create an executable file.

Levels of programming

The programming language contain with keywords and syntax for create a set of instruction. These languages are different in level of abstraction, some programming language provide or no abstraction while some provide higher abstraction. Considering the levels of abstraction is possible classified in two categories **Low-level language** and **High-level language.**

The low-level language is a programming language that provides no abstraction from the hardware, and it is represented in 0 or 1 forms, which are the machine instructions. The languages that come under this category are the Machine level language and Assembly language. (JavaTpoint, 2011-2018)

The high-level language is a programming language that allows a programmer to write the programs which are independent of a particular type of computer. The high-level languages are considered as high-level because they are closer to human languages than machine-level languages. (JavaTpoint, 2011-2018)

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