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CSC 310

**Question**

Make Comparative analysis of Assembly language, Machine Language and High level langauges respectively.

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| Assembly Language | Machine Language | High Level Language |
| An assembly language is the first step to improve programming structure and make machine language more readable by humans. An **assembly language** consists of a set of symbols and letters. A translator is required to translate the assembly language to machine language. This translator program is called the 'assembler.'  | **Machine language**, or **machine code**, is the only language that is directly understood by the computer, and it does not need to be translated. All instructions use binary notation and are written as a string of 1s and 0s. A program instruction in machine language may look something like this:100001111110000 | A **high-level language** is a programming language that uses English and mathematical symbols, like +, -, % and many others, in its instructions. When using the term 'programming languages,' most people are actually referring to high-level languages. High-level languages are the languages most often used by programmers to write programs. Examples of high-level languages are C++, Fortran, Java and Python. |
| Assembly language is a language which *is*used in writing codes for microprocessor. It is also a kind of low level language and they are also not that human readable until u know their syntax and implementation. Like if u wrote some code in assembly language for microprocessor 8086. | Machine language is formed of 0 and 1 and it is not human readable language. So only machine can understand. So whatever language you use to write code that code is convert*ed* into machine level language for making it machine understandable. | High level languages are very much developer/human understandable and these are the types of languages which are widely famous now.  |
| Assembly language is the language which is closest to the computer rather than a human. There are different forms of assembly language. Programs executed in Assembly language are fastest because of their closeness to the computer architecture. | Machine language is the language that is understood by the computer. | High level language is close to humans as it is easily understandable by humans but not by computers. Hence tools like compiler and interpreter are required for its conversion to machine language. |