

**Examrace**

▶ Examrace 463K

# Translators, Assemblers, Compilers, Interpreters-language processors for Competitive Exams

## Machine Language

- Machine language or machine code is the native language directly understood by the computer's central processing unit or CPU.
- This type of computer language is not easy to understand, as it only uses a binary system, an element of notations containing only a series of numbers consisting of one and zero, to produce commands.

## Assembly Level Language

- Assembly Level Language is a set of codes that can run directly on the computer's processor.
- This type of language is most appropriate in writing operating systems and maintaining desktop applications.
- With the assembly level language, it is easier for a programmer to define commands. It is easier to understand and use as compared to machine language.

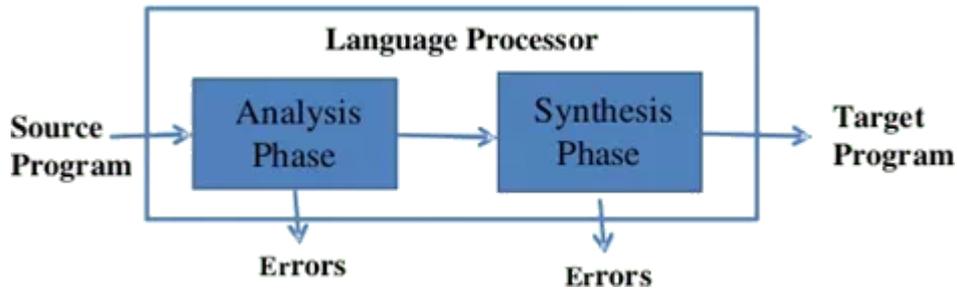
## High Level Language

- High Level Languages are user-friendly languages, which are similar to English with vocabulary of words and symbols.
- These are easier to learn and require less time to write.
- Program written in a high-level language can be translated into many machine language and therefore can run on any computer for which there exists an appropriate translator.

**A language processor** is a software program designed or used to perform tasks, such as processing program code to machine code.

Language processors are found in languages such as FORTRAN and COBOL.

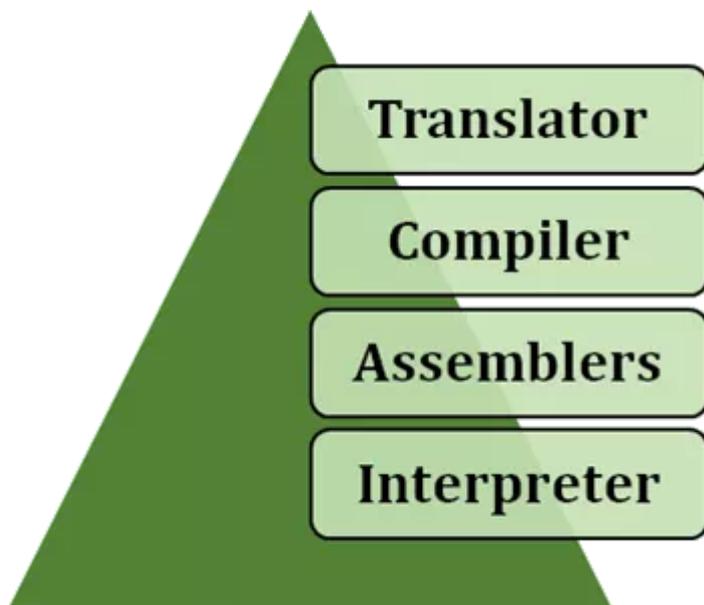
**Language processors are programs that can read a program in one language and convert it to an equivalent program in another language**



*Language Processor*

### Language Processors has mainly three purposes:

- Bridge gap between Application Domain and Execution Domain
- Translation from one language to another
- To detect error in source during translation



*Traslator, Compiler, Assemblers and Interpreter*

**Translator** - takes a program's code and translates it into machine code, allowing the computer to read and understand what tasks the program needs to be done, in its own native code. An Assembler and a Compiler are examples of a translator.

**Compiler:** Compilers are used to convert high level languages (like C, C++) into machine code.

Example: gcc, Microsoft Visual Studio

**Assemblers:** Assembler are used to convert assembly language code into machine code

**Interpreter:** An interpreter is a computer program which executes a statement directly (at runtime).

Examples: python, LISP, Ocaml