**High Level Language**

Writing a programme in Machine Language or Assembly Language is tiresome. It needs a deep understanding of hardware and memorising the operational codes. Due to these demerits, many other languages have been developed to use in a computer. They are generally known as ***High Level Languages***. Ordinary human languages cannot be used for computer due to their confusing grammar rules, vocabulary with synonyms and phrases, colloquial variations, Speed & contest dependency of meaning etc. A High-Level Language has a close resemblance to the English language. It is with a set of well-defined keywords and usage rules to make a direct translation of the Algorithm easy. BASIC, FORTRAN, C++, PYTHON etc. are the examples. In this, each instruction is with specific rules of usage. It can be used in any computer regardless of the brand and manufacturer of the microprocessor. So, this is a machine independent language.

The usage of each instruction or keyword is confined to rigid rules. Only if we write the instructions within these rules, the computer can understand them. These rules like grammar rules in English are known as ***Syntax Rules***. An instruction even if correct in syntax, may lead to wrong answers if it is not properly used. That is, the instruction is with ***Semantic Error***. For instance, consider the sentence ‘Mary plays the violin’. Hereby human practice, we know that the name of the child is ‘Mary’ and the name of the instrument is ‘violin’. Suppose I made a special type of musical instrument and named it ‘Mary’ in memory of somebody. My daughter named ‘Veena’ is an expert in this instrument. When she plays the new instrument, I have to say – ‘Veena plays Mary’. Then the listener may be confused about the name of the child and the name of the instrument. Some of them will say that there is a grammar mistake. Here the statement is with lesser clarity. This is an example of a semantic error. If I am writing the above statement as – ‘My daughter Veena is playing the new instrument named Mary’, it is free from syntax errors and semantic errors, even if it is little lengthy. Computer codes must be free from syntax error and semantic error.

A high-level language must have the following features.

1. Well defined set of permitted characters.
2. Ability to represent and manipulate different data types like integer, float, character etc. and objects like strings, arrays, list etc.
3. A detailed list of operators (arithmetic, conditional etc.) to act on the data.
4. Instructions for control flow on decision making, branching, looping etc.
5. A set of syntax rules to frame the correct instruction with keywords and symbols permitted by the language.
6. A set of semantic rules to assign correct and unambiguous meaning to a statement.