Introduction to Python

An ordered set of instructions to be executed by a computer to carry out a specific task is called a program and the language used to specify this set of instructions to the computer is called a programming language.

As the computers understands the language of 0s and 1s which is called machine language or low level language. However it is difficult for humans to write or comprehend instructions using 0s and 1s. This led to the advent of high level programming language like Python, C++, Visual Basic, PHP, Java that are easier to manage by humans but are not directly understood by the computer.

A program written in a high level language is called Source code.

The language requires translators like compilers and interpreters to translate the source code into machine language.

Python:
Developer: Python software foundation
Designed by: Guido Van Rossum
paradigm: Multi-paradigm, object-oriented, procedural, functional, structured, reflective.
first appeared: 1991 Feb 20

Python uses an interpreter to convert its instructions into machine language, so that it can be understood by the computer.

An interpreter processes the program statements one by one, first translating and then executing. This process is continued until an error is encountered or the whole program is executed successfully. In both the cases, program execution will stop.

On the contrary, a compiler translates the entire source code, as a whole, into the object code. After scanning the whole program, it generates error messages, if any.

Features of Python

(1) Python is a high level language. It is a free and open source language.

(2) It is an interpreted language, as Python programs are executed by an interpreter.

(3) Python programs are easy to understand as they have a clearly defined syntax and relatively simple structure.

(4) Python is case sensitive. For example Number and number are not same in Python.

(5) Python is portable and platform independent means it can run on various operating systems and hardware platforms.

instruction in a file called python source code
file that can be executed.

(6) Python has a rich library of predefined functions

(7) Python is also helpful for web development.

(8) Python uses indentation for blocks and nested blocks.