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Python Introduction

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- Python is a high-level, interpreted, interactive and object-oriented scripting language.
- Python was designed to be highly readable which uses English keywords frequently whereas other languages use punctuation and it has fewer syntactical constructions than other languages

- **Python is Interpreted -** It means that it is processed at runtime by the interpreter and you do not need to compile your program before executing it.

what is interpreter and compiler

- A program that executes instructions line by line and converts to intermediate form called interpreter
- A compiler translates high-level instructions directly into machine language

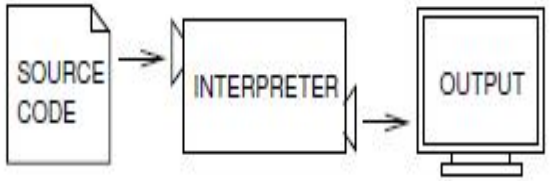

Figure 1.1: An interpreter processes the program a little at a time, alternately reading lines and performing computations.

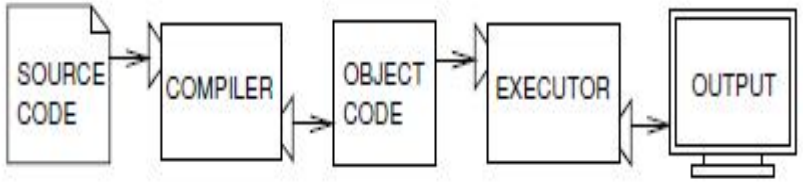

Figure 1.2: A compiler translates source code into object code, which is run by a hardware executor.

- **Python is Interactive -** It means that you can actually sit at a Python prompt and interact with the interpreter directly to write your programs.

- **Python is Object-Oriented -** It means that Python supports Object-Oriented style or technique of programming that encapsulates code within objects.

- **Python is Beginner's Language -** Python is a great language for the beginner programmers and supports the development of a wide range of applications from simple text processing to www browsers to games.

- **Easy-to-maintain -** Python's success is that its source code is fairly easy-to-maintain.

- **A Broad Standard Library -** One of Python's greatest strengths is the bulk of the library is very portable and cross-platform compatible on UNIX, Windows and Macintosh.

- **Portable -** Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
- **Extendable -** You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.
- **Databases -** Python provides interfaces to all major commercial databases.
- **GUI Programming -** Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh and the X Window system of Unix.
- **Scalable -** Python provides a better structure and support for large programs than shell scripting.