## Python Introduction

Python was created in 1989

Python is interpreted not compiled

|  |  |
| --- | --- |
| Interpreter | Compiler |
| Translates program one statement at a time. | Scans the entire program and translates it as a whole into machine code. |
| It takes less amount of time to analyze the source code but the overall execution time is slower. | It takes large amount of time to analyze the source code but the overall execution time is comparatively faster. |
| No intermediate object code is generated, hence are memory efficient. | Generates intermediate object code which further requires linking, hence requires more memory. |
| Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard. |
| Programming language like Python, Ruby use interpreters. | Programming language like C, C++ use compilers. |

Object oriented

High level programming language with dynastic semantics

## Who uses Python

* Youtube – The video sharing service is largely written in Python
* Google – Web Search systems
* Dropbox – storage service codes both server and client software are primarily in python
* NASA – Scientific programmic tasks
* NSA – Use python for cryptography and intelligence analysis.

## Python Features

* Simple and easy to learn
* Free and Open source software
* Highlevel language
* Portable – supported in all the platforms
* Supports different programming paradigm
  + Object Oriented Language
  + Procedure oriented language (functional)
  + Logical oriented language
* Extensible
  + Python can integrate Java and .net component and C/C++ libraries

## Operators in Python

1. Arithmetic Operators

* (+,-,\*,/)
* Exponential Operator - \*\*
* Modulus Operator - %
* Division that results into a whole number - //

1. Assignment Operators
2. Comparison Operators
3. Logical Operators

‘True’ and ‘False’ are reserved

1. Bitwise Operators
   1. ‘|’,’&’,’^’
2. Identity Operators
   1. Is
   2. is not
3. Membership operators
   1. In
   2. Not in

## Datatypes In Python

## Flow Control

## Functions in Python

## File Handling in Python