

INTRODUCTION TO PYTHON

- ✓ I. PROGRAMMING LANGUAGE?
- ✓ II. PYTHON?
- ✓ III. WHY PYTHON?
- ✓ IV. WHAT CAN BE DONE WITH PYTHON?
- ✓ V. DRAWBACKS?

1) Programming language: Way of communicating / instructing the PC/computer to do some specific task

Analogy

Spoken Language
{eg. English }



Programming Language
{eg. Python }

i) Communication b/w
Human ↔ Human

Communication b/w
Human ↔ PC/computer

ii) Grammar Vocab

Syntaxes keywords



2. What is Python?

1991 by Guido van Rossum.

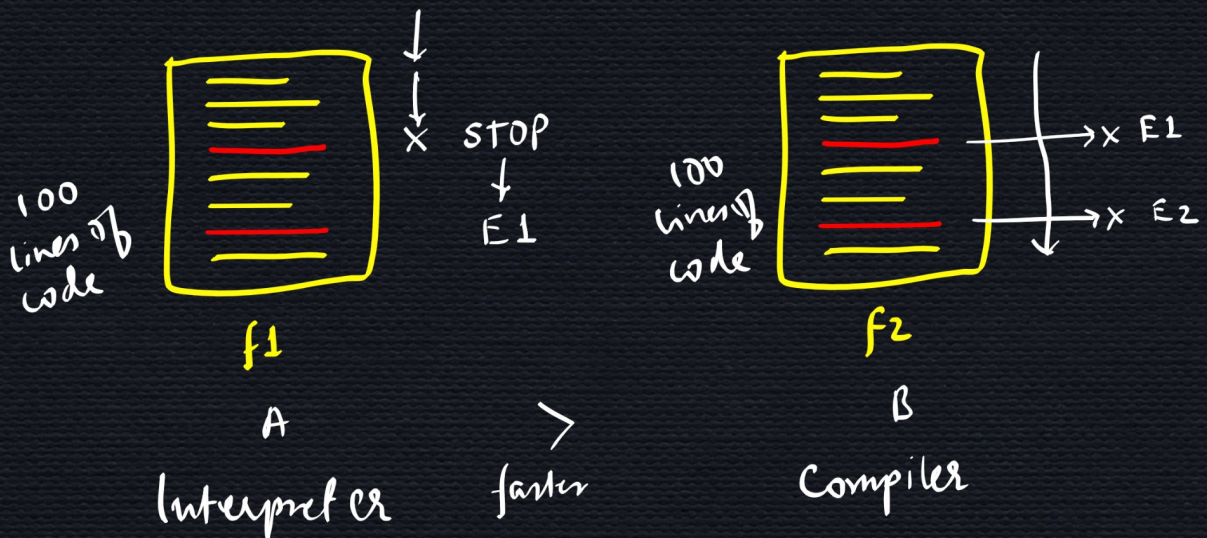
def:

Python is → interpreted ✓
→ high level ✓
→ object-oriented ✓
programming language

The main aim behind creating Python was -

- improved readability
- ease of use
- with a syntax that is designed to be clear & concise

(i) Interpreted :-



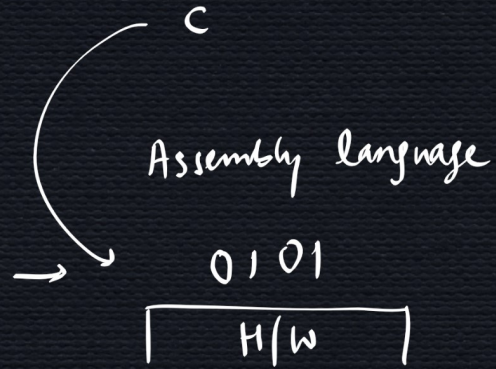
Python is an interpreted language, which means it doesn't need to be compiled before running. Instead it is executed line by line.

Due to which it becomes easier to debug and test code, as errors are caught & reported as soon as they occur.

ii) High level language :-

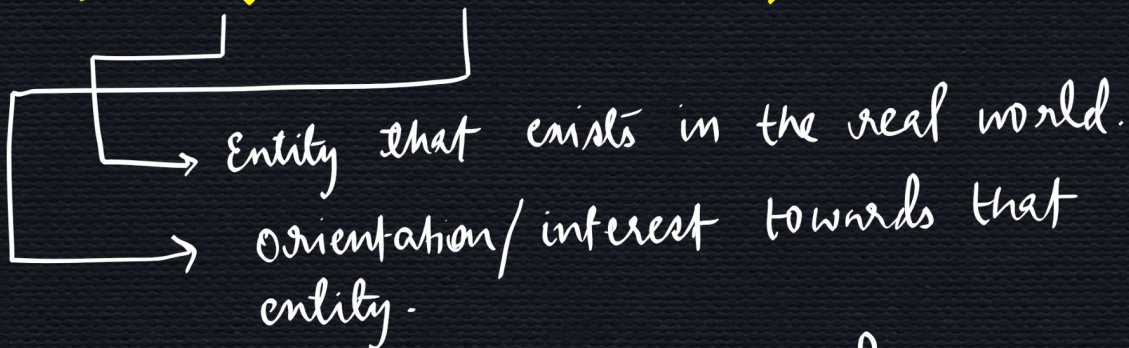


→ Python



Python is HLL \Rightarrow that it is closer to human language and easier to read, write and maintain code.

(iii) Object - Oriented Programming.



$$\text{area} = w \times l$$
$$\text{perimeter} = 2(w + l)$$

object → land
 orientation → Geometric property
 area / perimeter

3> Why Python?

- i> Widely used & accepted { versatile }
- ii> Easiest to learn → simple & beginner friendly
- iii> Strong community → stackoverflow
 +
 chatGPT / Bing Chat
- iv> Fast prototyping
 PoC → proof of concepts.
- v> Cross platform
 it can run on
 Linux, Windows, MacOS.

4> What can be done with Python?

Versatile language ⇒ Vast applications

- GUI
- Robotics { ROS }
- Web scraping
- Data science
- Cybersecurity
- Data Engineering
- Data Analyst
- Database
- DevOps
- Image processing
- IOT

57 Drawbacks ?

↳ slow as compared to other languages like C++, Java etc.