

* PROGRAM :-

- > A program is a set of instructions which performs a specific task.

* PROGRAMMING :

- > Writing programs
- > Communicating with the computer

* PROGRAMMING LANGUAGE :-

- > A way to communicate with the computer
- > Used to write programs

* MACHINE LANGUAGE :

- > Also Known as Binary Language
- > 0, 1
- > 0 : Off / Low
- > 1 : On / High

TRANSISTOR → LOGIC GATES → CIRCUITS



HIGH LEVEL
LANGUAGES

> Programming

Languages

* PYTHON

* C

* C++

* JAVA

* COBOL

* FORTRAN

ASSEMBLY
LANGUAGE

> MNEMONICS

00110110 : add

| 0110011 : sub

| 1011011 : mov

PROCESSING
UNIT

> Instruction Set

> Instruction length

Ex : 8 bit instruction

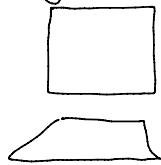
00110110

| 01100110

| 10110111

* MACHINE LANGUAGE *

Machine
Language

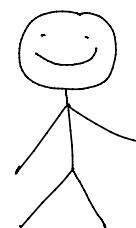


Programming
Language

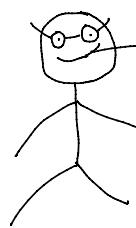
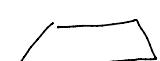
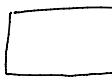
Human

> English

> Hindi



Machine
Language



Programmer
Programming
Language

MACHINE
LANGUAGE

TRANSLATOR
COMPILER/INTERPRETOR

PROGRAMMING
LANGUAGE

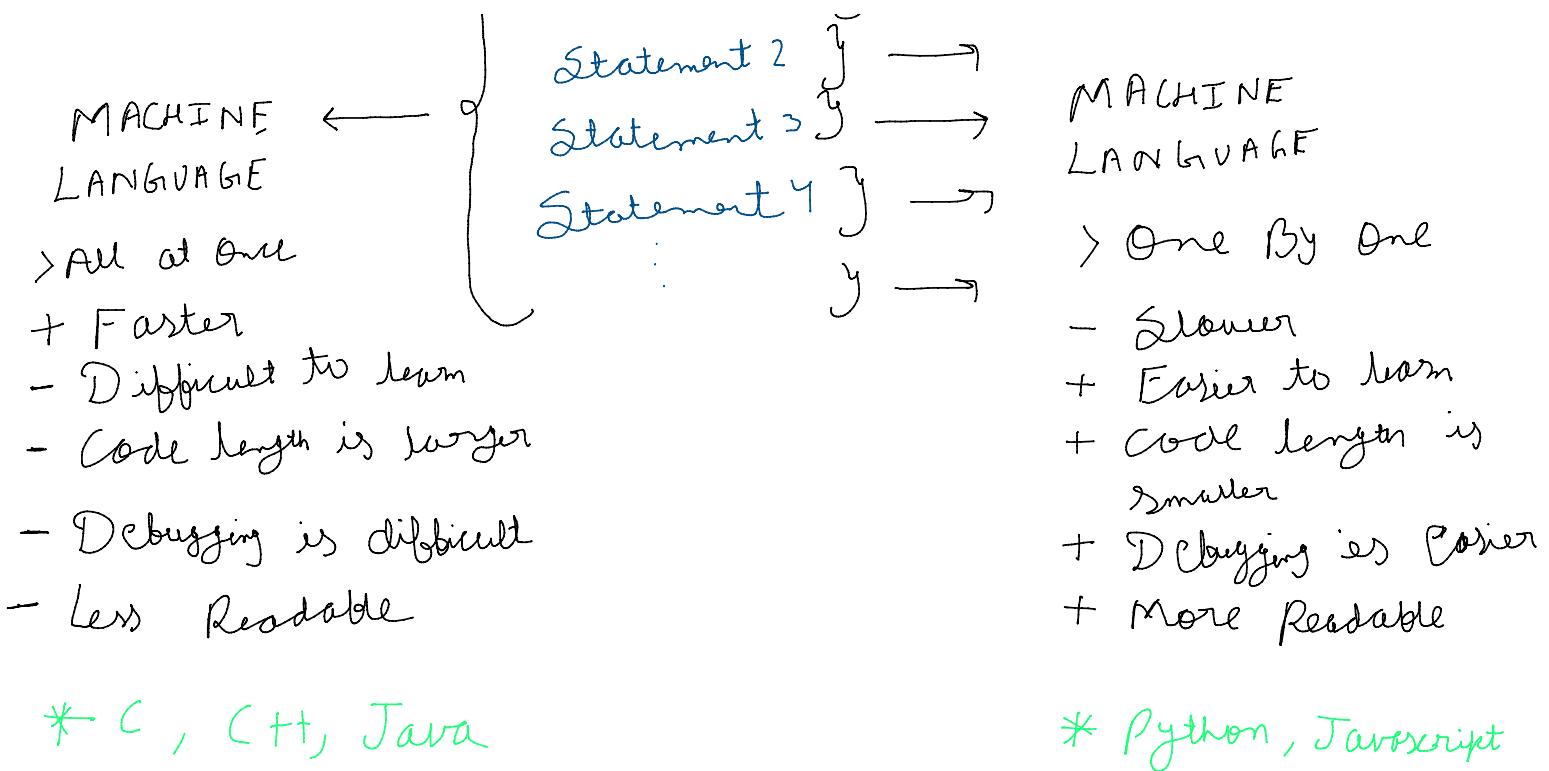
COMPILER

INTERPRETER

Statement 1 }
Statement 2 }

MACHINE

EXECUTE



* PYTHON:-

- > Easy to learn
- > Easy to use
- > Readable
- > Interpreted
- > Object Oriented

* WHY PYTHON FOR DATA SCIENCE & AI:

- > Best Ecosystem for Data Science and AI
- > T - d u a l n u m b e r

- > Industry support
- > Libraries and frameworks
- > Open source Tools
- > Community Support