



# Introduction to Python

# What is Program and Programming Language?

- ▶ **Program:**

is set of instruction that tells the computer what to do and how to do?

- ▶ **Programmer:**

is a person who developed programs.

- ▶ **Programming language:**

It is formal computer language which is designed to communicate instruction or commands or orders to a machine, Particularly a computer. Programming language can be used to create program that control the behavior of a machine.

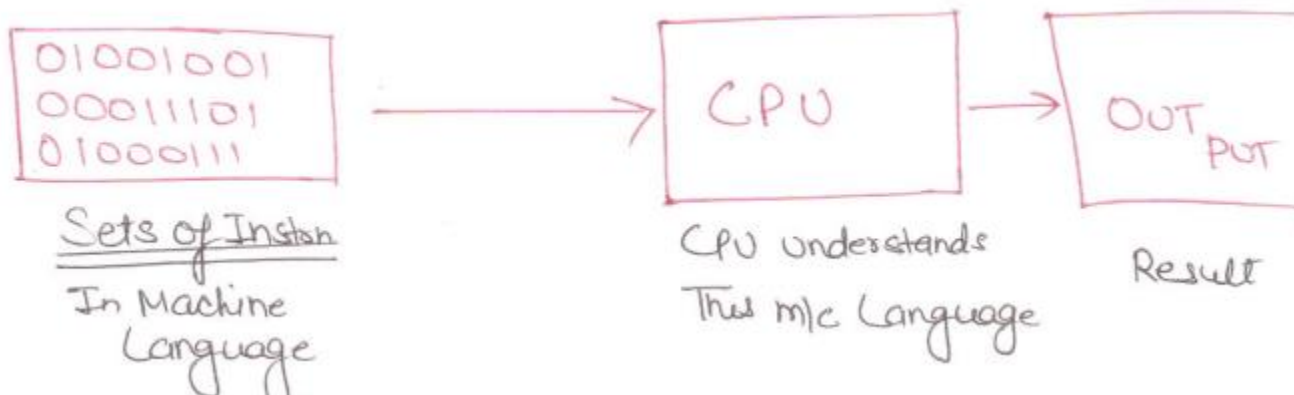
# Different Types of Programming Languages:

## ► Machine Language:

A computer or machine only can understand its machine language which is designed by its HARDWARE ARCHITECTURE.

Machine language generally consists of numbers that is 0 and 1.

Thus 0 & 1 codes are difficult to understand by the programmer.



# Assembly Languages:

- ▶ It is low level language for computer and microprocessor and other programmable device.
- ▶ It is basically English like Abbreviation to perform operations.
- ▶ Now we need to convert assembly language to machine as CPU do not understand Assembly language.
- ▶ So Assembler converts the Assembly to Machine language.



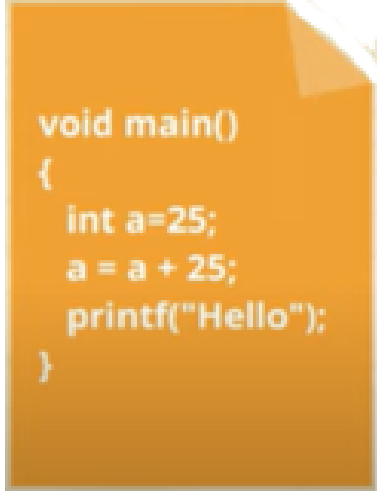
```
Mov A1, AA  
JMP L20  
CMP R0, R1  
ADD R1, AH, BH
```

# High Level Languages

- ▶ As the requirement of developing a fast and easy language for developer to understand, high level language come in existence.
- ▶ Feature of High level language:
  - ❑ Statements are like English language
  - ❑ Flexible syntax and easy to read
  - ❑ Is object oriented and functional

Example:

C++,Java, Python etc.



```
void main()
{
    int a=25;
    a = a + 25;
    printf("Hello");
}
```

# What is Python?

- ▶ Python is a high level interpreted, Object oriented programming language, popular for its readability and clear syntax.
- ▶ It can be used for
  - ❖ Console app
  - ❖ Desktop application
  - ❖ Web app
  - ❖ Mobile app
  - ❖ Artificial intelligent
  - ❖ IOT application



# About Python

- ▶ Very sample and straight forward syntax. It can be your first programming language too.
- ▶ Python is case sensitive
- ▶ It is an Object oriented Language
- ▶ Interpreted Language
- ▶ Indentation is used in place of curly braces
- ▶ Used Variable without declaration
- ▶ We will be cover Python 3

# Introduction to





# Agenda:

- ▶ What is anaconda? And it's advantage
- ▶ Installation (Window)
- ▶ Getting familiar with command line and GUI
- ▶ Anaconda navigator and Command line

# What is anaconda?

- ▶ **Anaconda is a free and open-source distribution of Python and R.**
- ▶ **Used for data science, machine learning and deep learning.**
- ▶ **More than 300 data science packages.**

# Installation (Window)

- ▶ Go To <https://www.anaconda.com/>
- ▶ Download the suitable version
- ▶ Open the setup and follow instructions
- ▶ Run the application after the installation finish

# Anaconda prompt

- ▶ Anaconda prompt is **similar to a terminal or command prompt (cmd)**. It refers to a black screen used to type in the commands by the user.

- ▶ Different Command

```
conda info
```

```
python -V
```

- ▶ Install libraries

```
pip install pandas
```

- ▶ Launch Jupyter notebook

```
jupyter notebook
```

# Anaconda navigator

- ▶ Anaconda Navigator is a graphical interface for launching common Python programs without having to use command lines, to install packages and manage your environments. It also allows you to launch applications and easily manage conda packages, environments, and channels without using command-line commands.