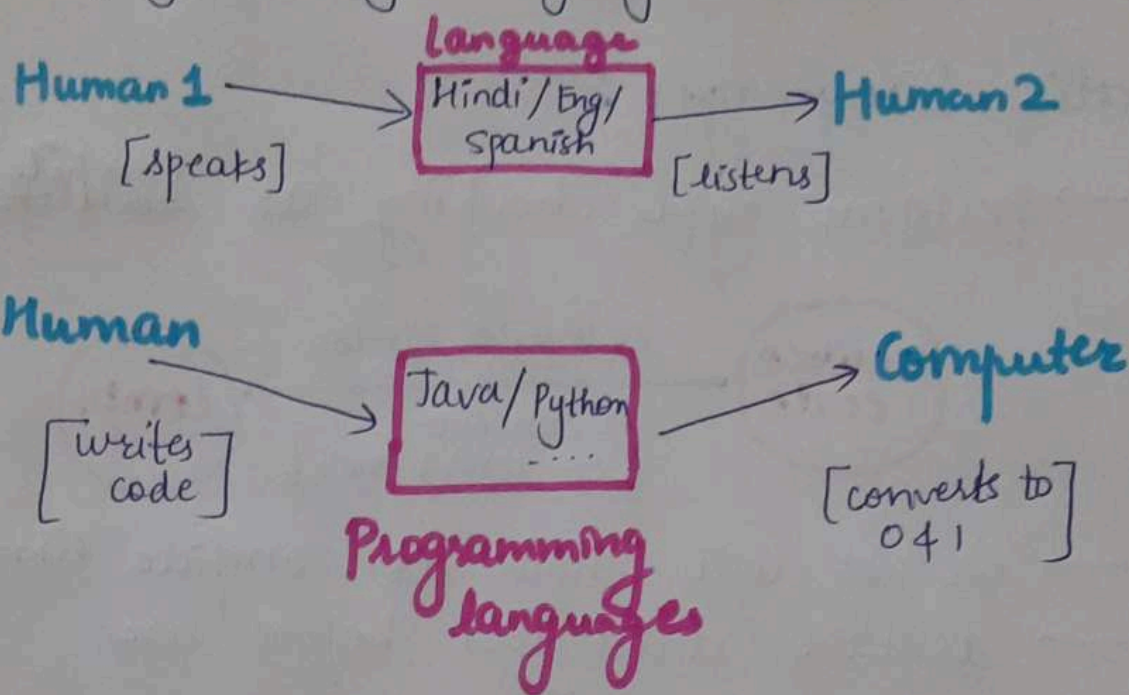


2/8/21

Introduction to Programming Language

- Computers at very minute level only understands zeros & one's (0's & 1's)
- What is programming language?



- Types of Programming Languages :

Procedural :

- series of well-structured steps & procedures to compose a program
- contains a systematic order of statements functions and commands to complete a task.

Functional :

- Writing a program only in pure functions i.e., never modify variables but only create new ones as an output
- Used in a situation where we have to perform lots of different operations on the same set of data like ML.
- Have first Class Functions.

Object Oriented:

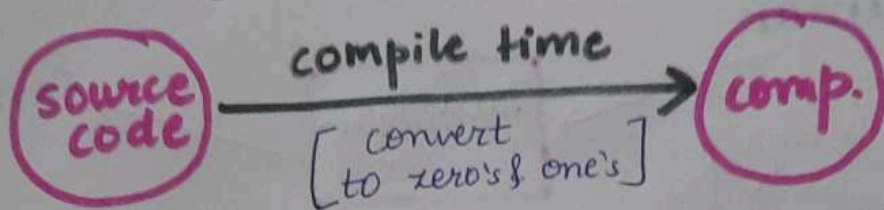
- Revolves around objects
- code + data = objects
- developed to make it easier to develop, debug, reuse & maintain.

{ We are obj of class Human.

Class - Non-d grp (un-def data type) of proper functions.

• Static Languages:

- Perform type checking at ~~runtime~~ ^{compile time}.



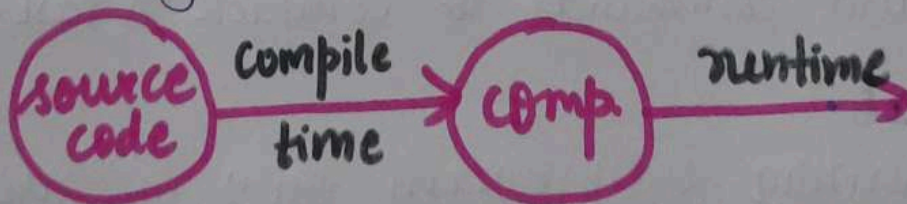
- errors will show at compile time
- declare datatypes before use

int a = 10

- More control over the program.

• Dynamic Languages:

- Performs type checking at runtime

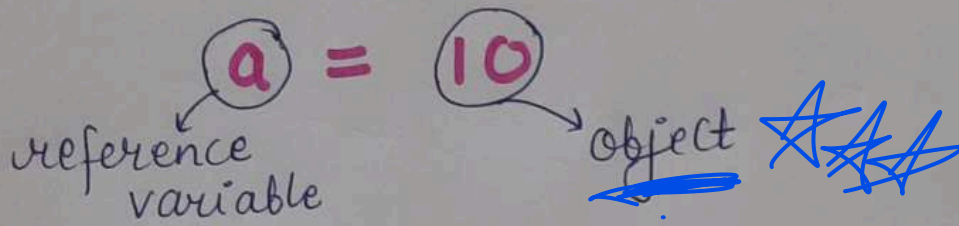
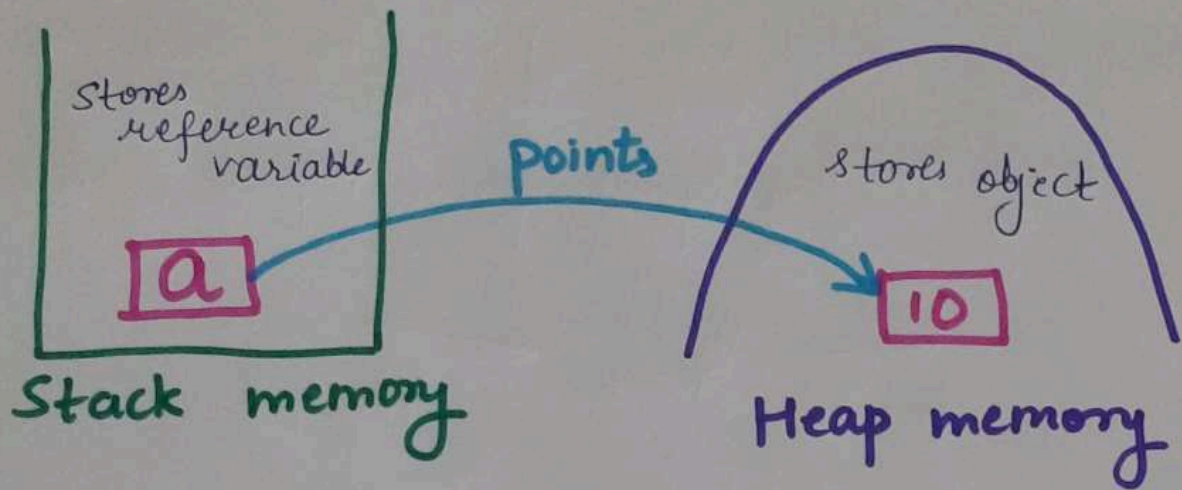


- error might not show till programs run
- no need to declare datatype of variables

a = 10 [language by itself figures out data type]

- saves time in writing code but might give error at runtime.

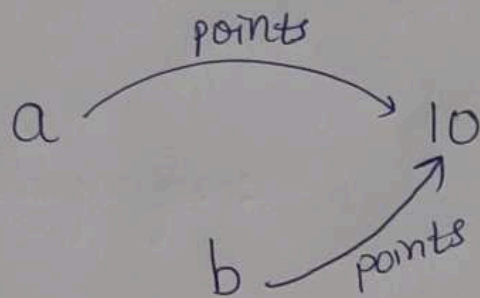
→ Memory Management :



Now suppose,

a = 10

b = a



- more than one reference variable can point towards one object.
- If any of the reference variable changes the object then it is changed for all reference variable ~~for~~ that points towards same object.

Now initially,

a = 10

then,

a = 50

