Python

↓

Easy-to-learn

OOPS (Object oriented Programming Language)

Applications

① Developing website ⟶ Django & flask tools ✓

② Database connectivity ⟶ Python can connect to various database system (MySQL, PostgreSQL & many more)

③ Data handling ⟶ Complex mathematical calculation ⟶ NumPy (Numerical Python)

C++

④ ML & AI ⟶ Tensorflow, Pytorch

⑤ Automation

features of Python

1. Simple & Easy-to-learn

2. Interpreted language $\longrightarrow$ Easy to find & fix mistakes in your code.

3. Large Standard library

4. Integerated

5. Error management $\longrightarrow$ Robust

6. Cross-platform language $\longrightarrow$ Platform independent

USP's (Unique Selling Point)

① Execution Process → Quick feedback

② Code simplicity

③ Dynamic typing
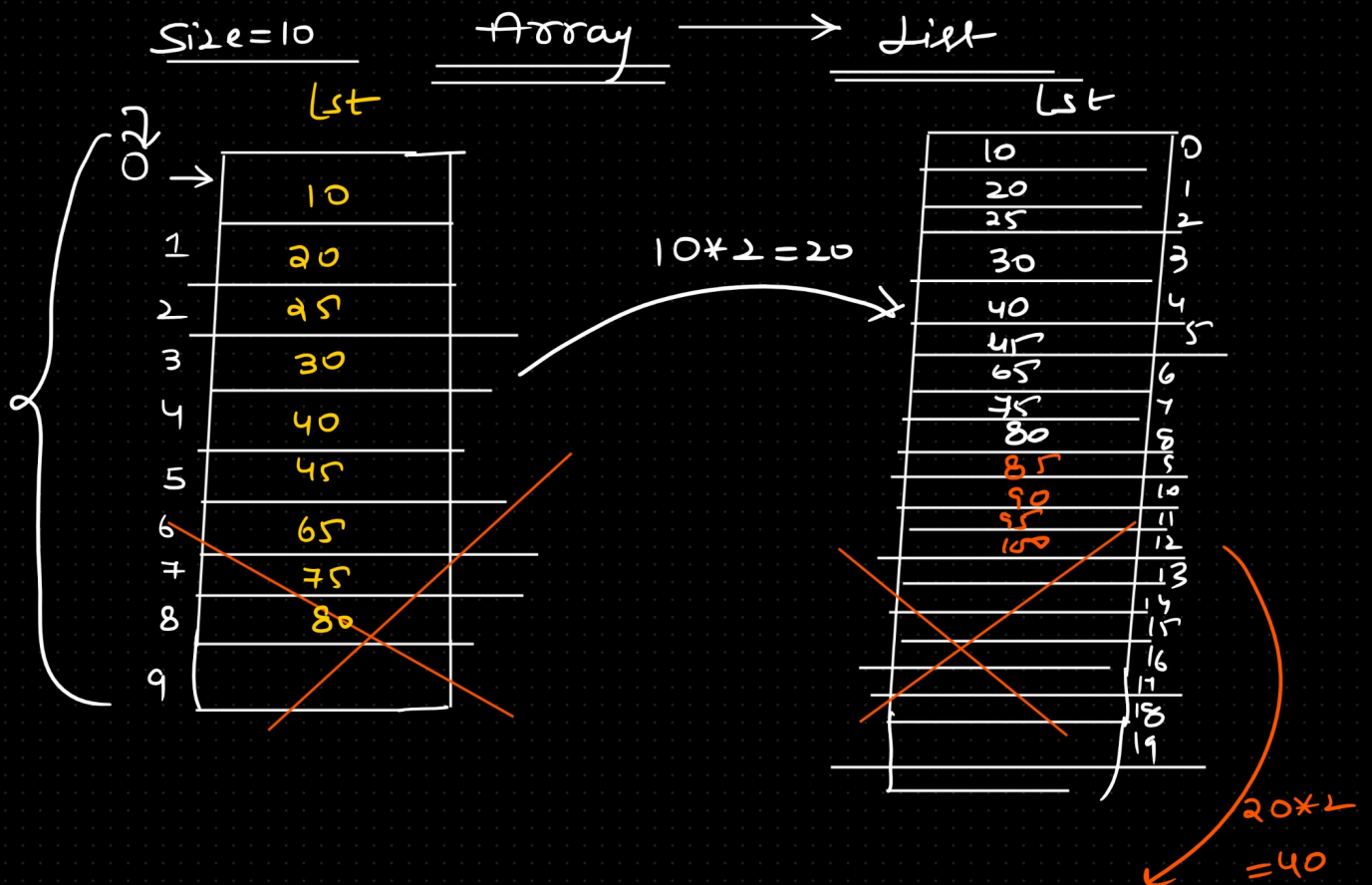
(Magical container)

Variables ⟶ Store data

$$a = 10 \quad \langle int \rangle$$

Variable

int ⟶

boolean ⟶

float ⟶

String ⟶

④ Memory Management

Size=10   Array ⟶ List

Lst   Lst

```
2
0→  ┌──────────┐          ┌──────────┐ 0
    │    10    │          │    10    │ 1
  1 │    20    │          │    20    │ 2
  2 │    95    │  10*2=20 │    25    │ 3
  3 │    30    │ ──────→  │    30    │ 4
  4 │    40    │          │    40    │ 5
  5 │    45    │          │    45    │ 6
  6 │    65    │          │    65    │ 7
  7 │    75    │          │    75    │ 8
  8 │    80    │          │    80    │ 9
  9 └──────────┘          │    85    │ 10
                          │    90    │ 11
                          │    95    │ 12
                          │   100    │ 13
                          │          │ 14
                          │          │ 15
                          │          │ 16
                          │          │ 17
                          │          │ 18
                          └──────────┘ 19
```

$20*2 = 40$

                        ⤷ user defined

        function ⤸
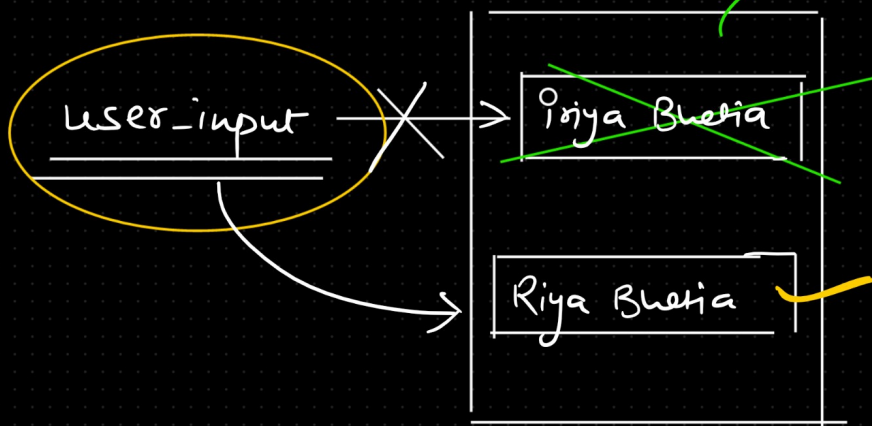   ⤷ built in function

a function is a reusable block of code that performs a specific task

                ⤷ string type

        user_input = "Priya Bhatia"

                                        Garbage collector

```
  ┌───────────┐        ┌──────────────┐
  │user_input │──✗──→ │ P̶r̶i̶y̶a̶ ̶B̶h̶a̶t̶i̶a̶ │
  └───────────┘        └──────────────┘
         │
         └────────────→ │ Riya Bhatia  │
                        └──────────────┘
```

q y

Variables $\longrightarrow$ Containers that hold the data

Legal variable name

① Can contain

→ Letters (a-z, A-Z),

digits (0-9),

_

② Start with letter or _

③ Case-Sensitive

My_Name = "Priya"

→ error

Print(my_name)

④ Keywords $\longrightarrow$ for = 10

Reserved words

Never use the reserved words for defining the