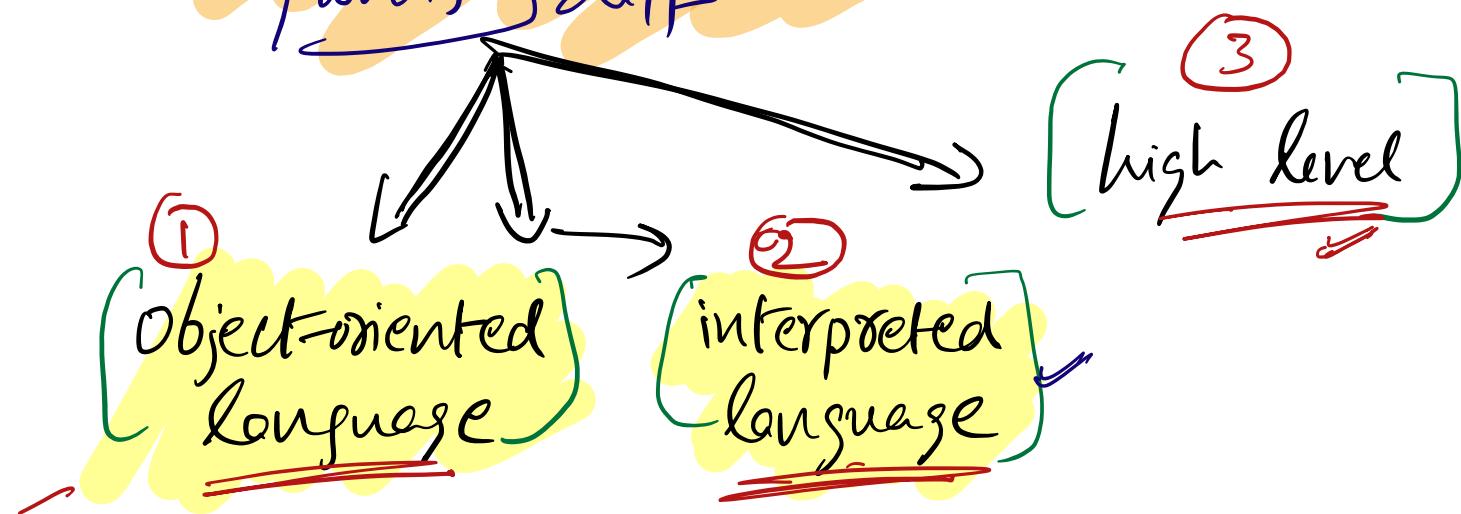


Python

Marsha

→ What?

⇒ Programming language
what's diff



↳ everything in that space is considered to be an object

e.g.: Car, man, book (oops concept)

② code / program is converted into a machine understandable language.

⇒ it executes the code line-by-line.

③ a human understandable Syntax [English]

C/C++/Java (i)(e{ })

Marsha

⇒ Python was developed by

Guido Van Rossum

in the year

1989.

why we use python?

- ① Simple to use and learn
- ② There are numerous libraries
- ③ flexibility, quickness, effectiveness ✓
- ④ Cloud Computing, big data & ML etc...

Where / How to Code in Python?

→ Jupyter Notebook (in) Anaconda Navigator

a GUI which provides
Various Applications for
Graphical User Interface. us to use on technologies.

Jupyter

which runs in chrome/
web browser

run codes in notebook

→ Visual Studio
→ pycharm etc...

Google Collab:-
→ Cloud based
Jupyter Notebook

Clear with
platforms?

→ Share live link

⇒ Comments / Compliments (#)

programming language ⇒ comments (why?)

- ① to understand the code
- ② to make the code clear for the team / others.

Represent ⇒ (#)

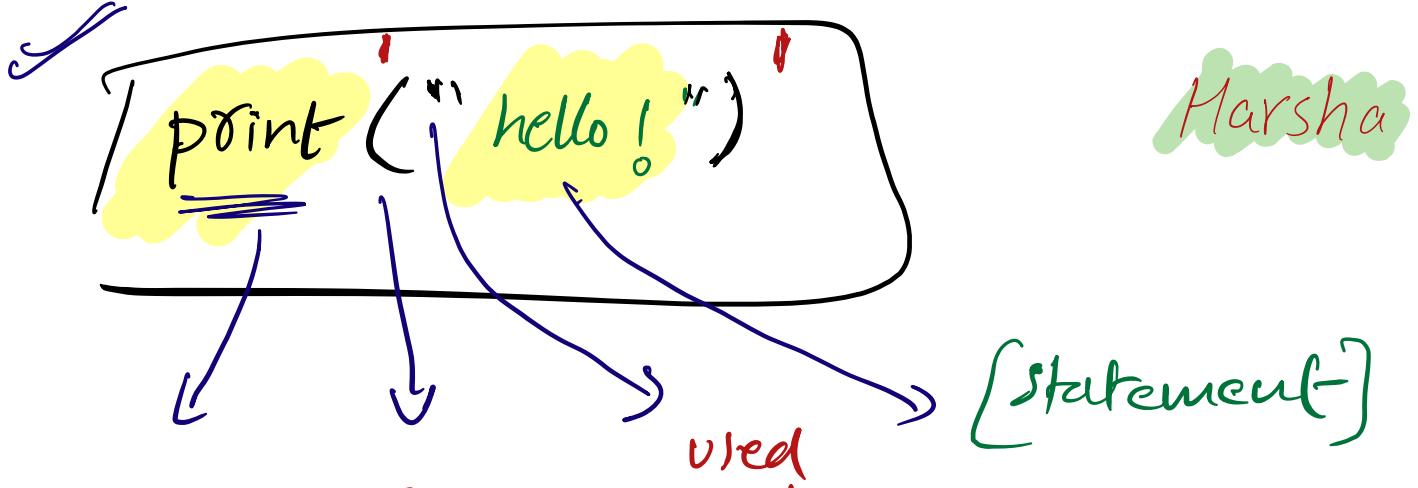
Marsha

hi hello!

O/P = -----

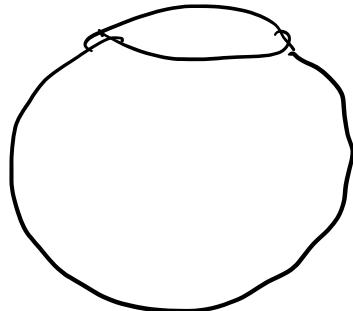
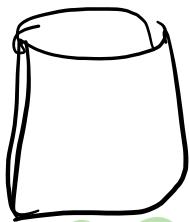
when we start?

⇒ [hello world program!]



function Parenthesis used to declare a string

dabba / box



diff Containers \Rightarrow used for

food / liquid

\Downarrow
diff purpose.

Variable

\Rightarrow is a Container, Values

\Rightarrow 1, 2, 3, ... (numbers)

\Rightarrow 1.0, 2.5, 3.6, ... (float)

\Rightarrow Hi, Hello, Hey... (string)

declare a variable?

11

Rules?

Marsha

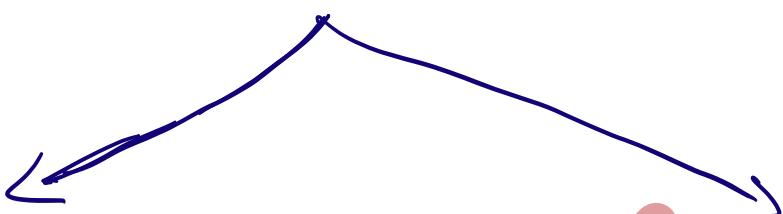
- (1) Keywords
- (2) Literals

Static
Dynamic \Rightarrow `input()`

Data types:

\Rightarrow Variables can store data of diff types, each having its own property called datatype.

\Rightarrow we choose the datatype, acc to the value.



Mutable

Immutable

\Rightarrow the info can be changed (or) altered even once declared.

\Rightarrow the info can not be changed (or) altered once declared.

List

Dictionary

Tuple

String

Set

Proof?

Indexing :- to fetch the index value

of a particular Element

from a particular Datatype

[0]

[1]

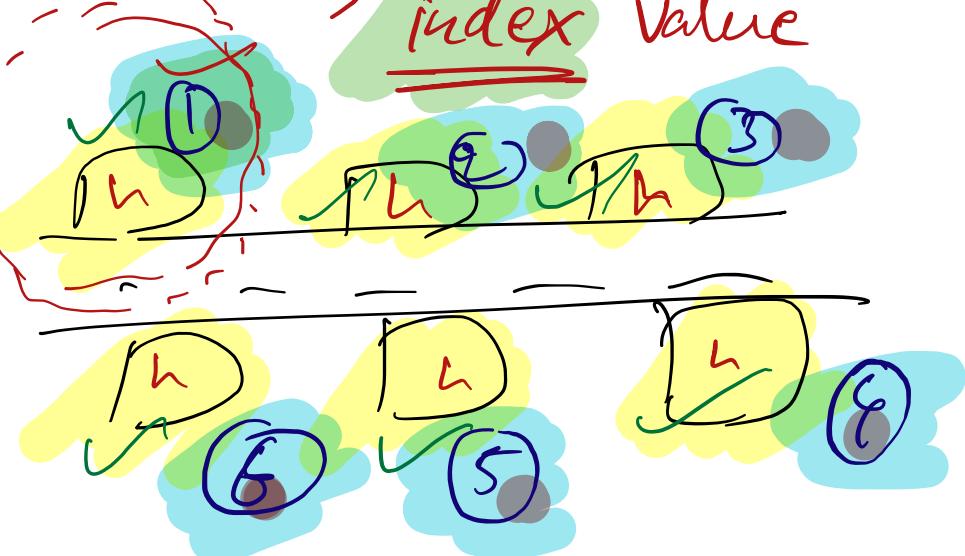
String :-

"hi"
index
value
0 1
else
else

h i

YStr

index Value



Note: in programming language

the index value start from 0

Hi
↓ ↓
0 1

Marsha

Based on indexing concept we divide data types into '2' categories.....

→ tuple
→ set
→ list } methods

⇒ dictionary [data type] Mutable

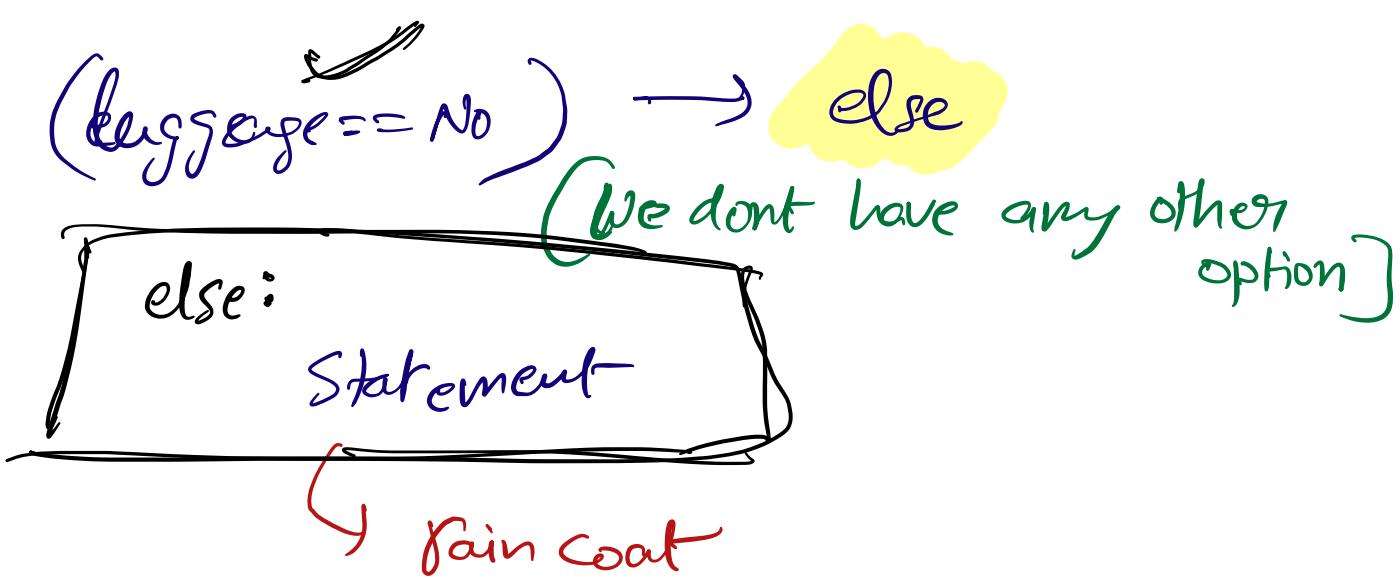
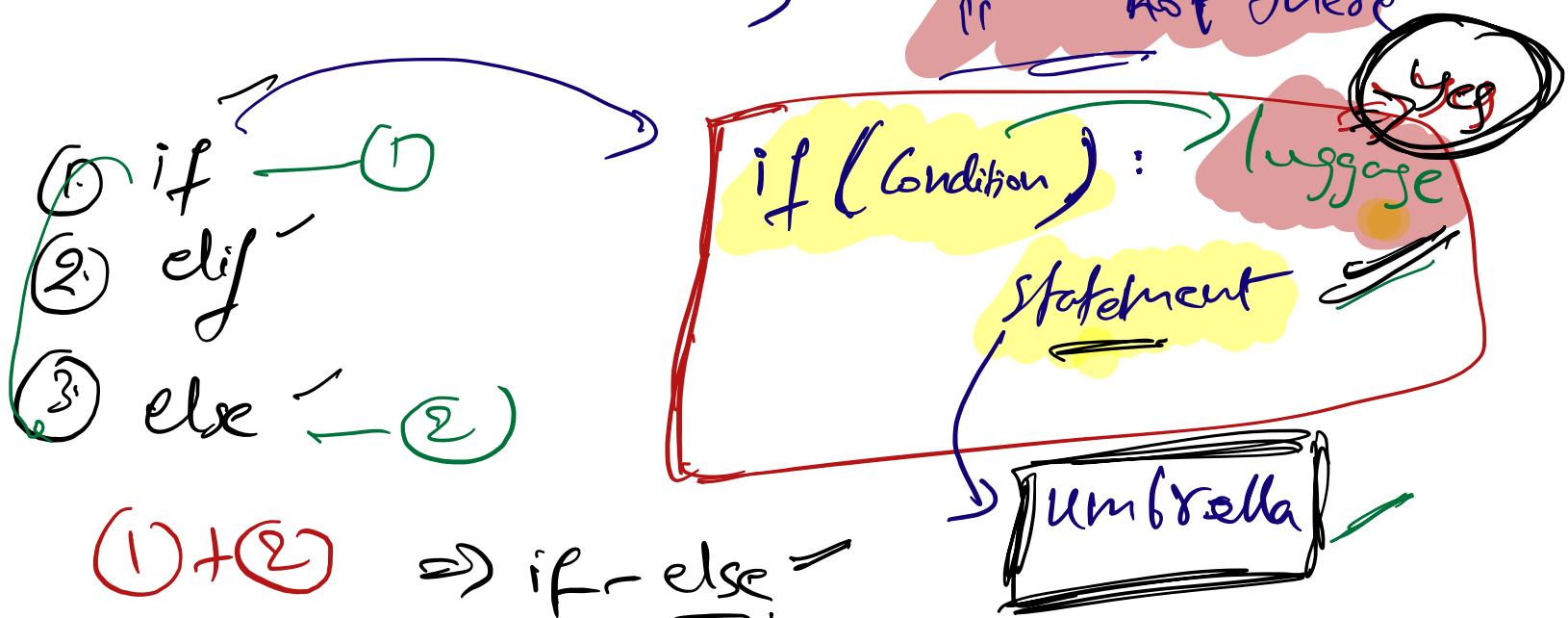
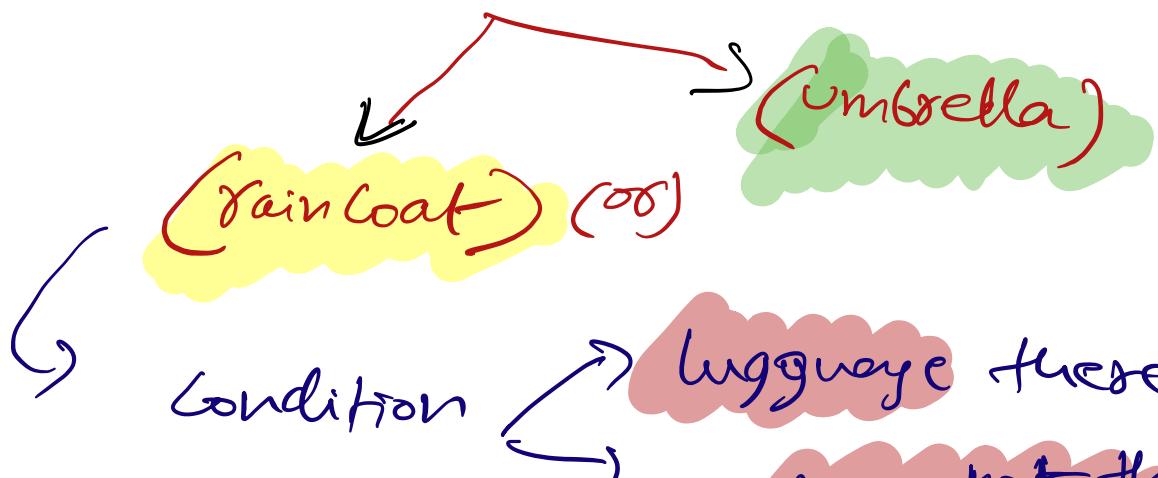
is called as a [key-Value Pair]

declare a dictionary ⇒ we should align both the key and values

⇒ a key can have more than one value

Conditional Statements :-

Marsha



if ("language" == yes):

~~X~~

Statement (umbrella)

else :

Statement (Rain Coat)

If - Else Condition

Marsha

⇒ if, else, elif, if-else

⇒ break, continue, pass.

Range (start, end-1)

$i = \text{range}(0, 10)$

$\text{Print}(i)$



0, 1, 2, 3, 4, 5, 6, 7, 8, 9

= 1

= 2

⋮

9

$i = \text{range}(5, 11)$

Marsha

$i = 5, 6, 7, 8, 9, 10$

loops:- what?

⇒ a loop is smtg which we use, when want to execute a piece of code till a certain number of times.

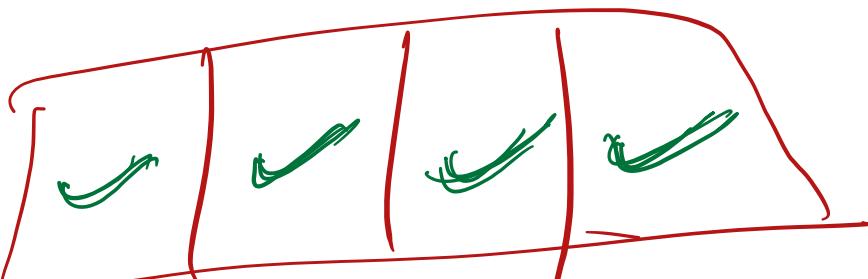
School

Mon - Sat
time table

Starting = Mon
} = Tue
} = wed
} = Sat

Teaching is
Same

⇒ In a school, we have a
fixed time table



Marsha

4 times in a month
is called a **Loop**

Python loops

[for] loop

[while] loop

for :-

⇒ It is used for **iterating** over a **Sequence**

⇒ Sequence Literals

literally
String
Boolean

data types

list
dict
tuple
set
String

iterating

flowing/moving

(→ → →) tuple

[, ,] list

{ , , } dict

we need a **starting point**
and an **ending point**

"banana"

$s = "hi"$

$s[0] = h$

Marsha

$\leftarrow \dots$

b, a, n, a, n, a

while :-



Sol:-

$i = 1$

$i < 3$

because

$i = 1$

\Rightarrow enter loop

(Condition is Satisfied)

$print(i) \Rightarrow i = 1$

$i = 1$

to

$i < 3$

How?

$i = 1 + 1$

$i = 2$

$\leftarrow \text{Print}$

i < 3

$2 < 3 \checkmark$

print(i) => 2

$|i| = 2 +$

$$\begin{array}{l} i \\ \downarrow \\ = 3 \\ \hline \end{array}$$

$3 < 3$

False Condition.

exit the loop

we run a code until we reach a particular limit.

for i in range(1, 3):

print(i)

1, 2

→ for loop

→ while loop

→ break, continue and pass

||| → if, else, if else, elif

Functions :-

→ if you want to use a piece of
Code again and again in your
project/ program.
we use functions!

Marsha

→ coz, you can't write the code again
and again

→ time consuming

(O)

$a+b$
 $a+b$
 $a+b$. many.

→ code gets mixed up

fun()

fun()

use when we require,
as many nof times
as we need.

- ① In built functions ✓
- ② User defined functions
- ③ lambda function.

Marsha

print ()
input ()

Inbuilt function.

→ Cuz, we are not giving the task for that function

→ The task that it will perform is already decided (or) given inside the system.

→ print ()
what

How to print
(or) → ①

what to print

②

② User defined
function!

↳ we define our own function.

↳ we declare how to do?
(and)

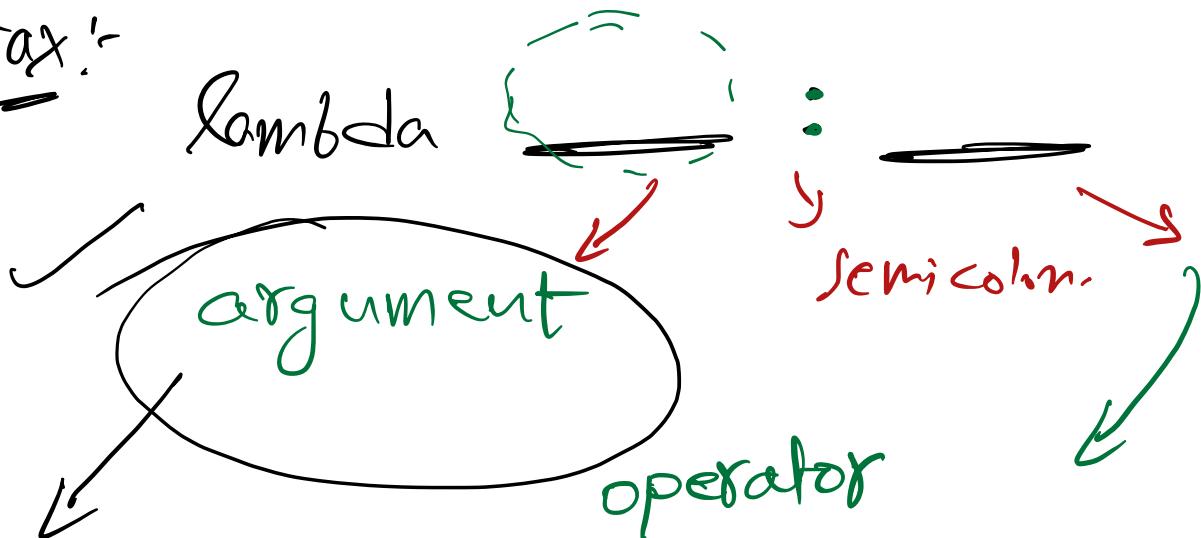
↳ we also declare what to do?

③ Lambda function.

Marsha

Lambda - is a keyword

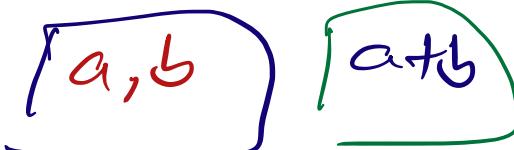
Syntax:-



argument is smtg which we pass-

operator is smtg which perform

let, addition



Lambda

Key

a,b

arg

a+b

e

OPC \Rightarrow (+)

a-b

~~a*b~~

~~a/b~~

⇒ it can have more than one argument
(but)

it can have only one operator

How?

definition

def function_name:

keyword

—
—
—
—
—

Marsha