

Python Refresher - 2.

① Iteration Protocol

↳ there are certain data types that can be iterated upon.

→ `a = "python"`
→ `for i in a:`
`print(i)`

Diagram annotations:
- `for i in a:` is labeled as **iterable**.
- `i` is labeled as **iterator**.
- The entire loop body `print(i)` is labeled as **iteration block**.

→ while loop

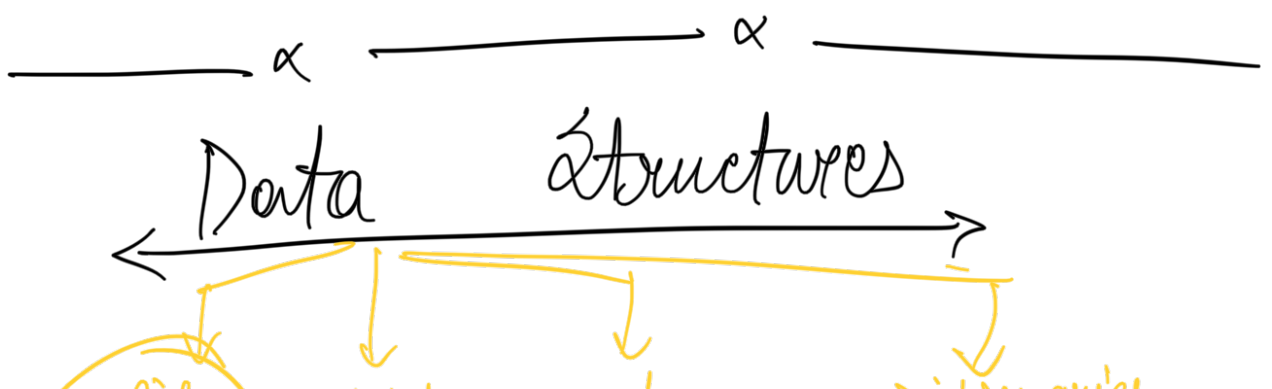
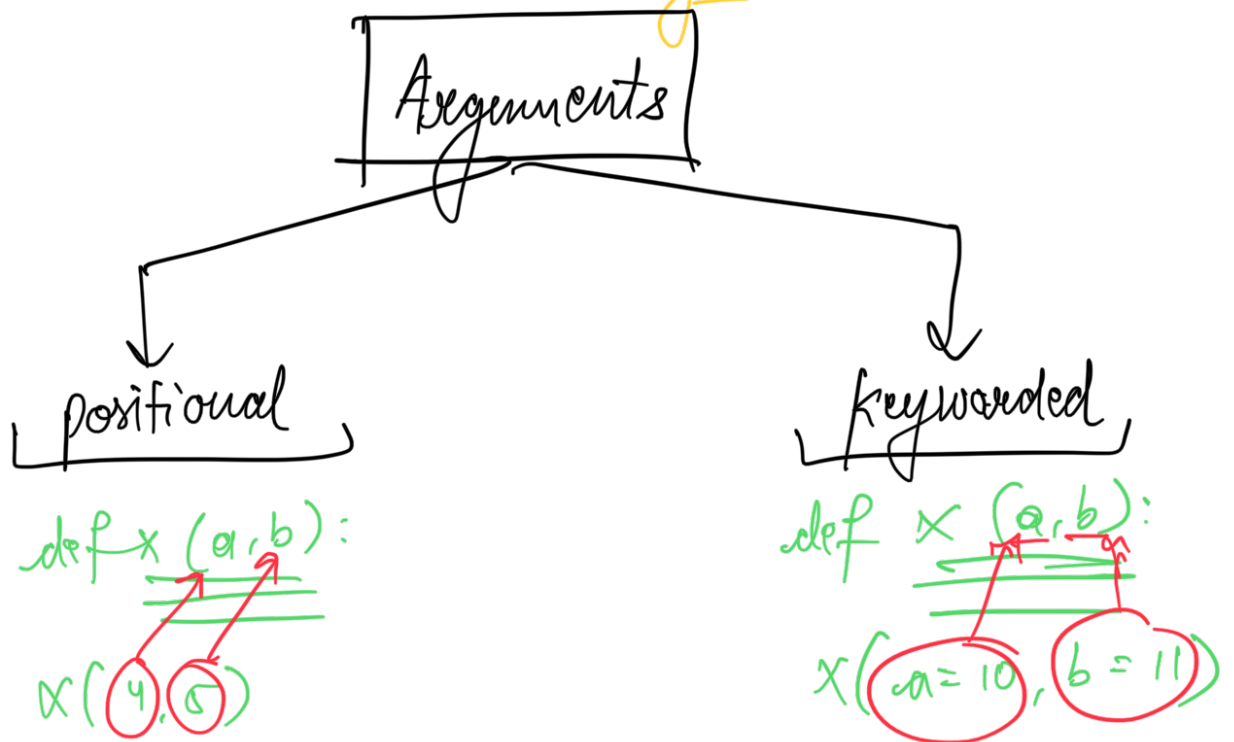
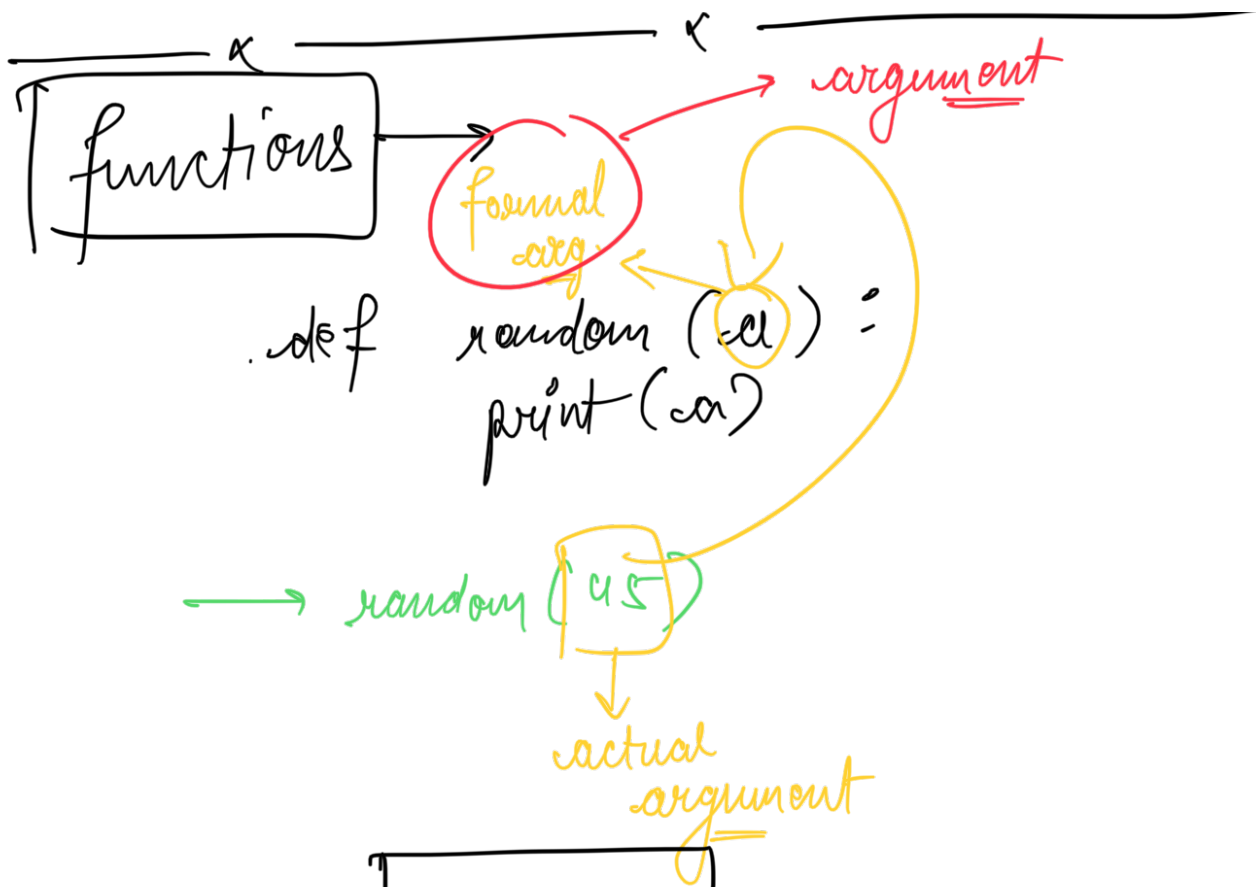
`a = 10`

→ `while a > 0:`
`print(a)`
`a = a - 1`

`a = "python"`

→ `it = iter(a)`

Diagram annotations:
- `a = "python"` is enclosed in a blue box.
- An arrow points from the box to `iter(a)`.
- `it` is labeled as iterator.



~~lists~~ tuples sets dictionaries.

① Lists →

heterogeneous collection
of objects.

[1, "bipin", 78, 45] → (n)

→ 0 1 2 3

last element → n-1

→ 0 1 2 3 4

[45, 56, 78, 99, 100]

-5 -4 -3 -2 -1 ←

+1 (+ve)

[1, 2, 3, 4, 5, 6, 7, 8, 9]

-9 -8 -7 -6 -5 -4 -3 -2 -1

end ← -1 (-ve)

start

-ve

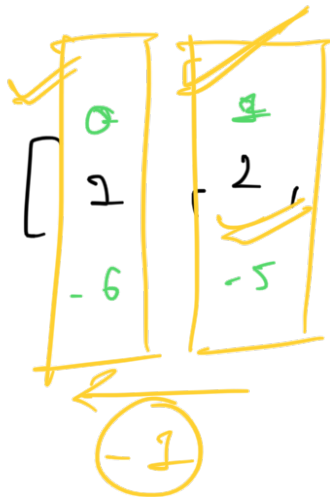
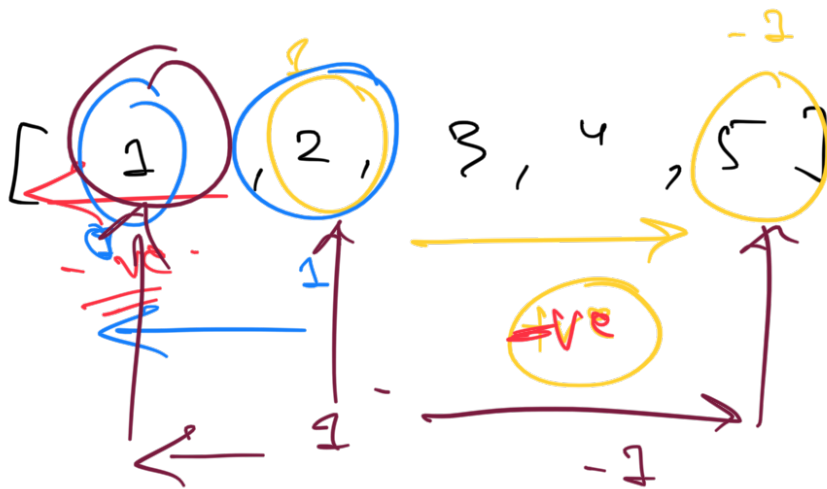
a [-6, 6, 7]

relative position → (x) index values

~~$a = [1, 2, 3, 4, 5]$~~



$a = [3, 4, 5]$



$\begin{matrix} 2 & 3 & 5 & 5 \\ 3 & 4 & 5 & 6 \end{matrix}$

$\begin{matrix} -4 & -3 & -2 & -1 \end{matrix}$