

# Data Structures

Divide & Conquer

Dynamic Programming

Algorithms

Greedy Algorithms

Logic building

Sequence of steps to solve any particular problem

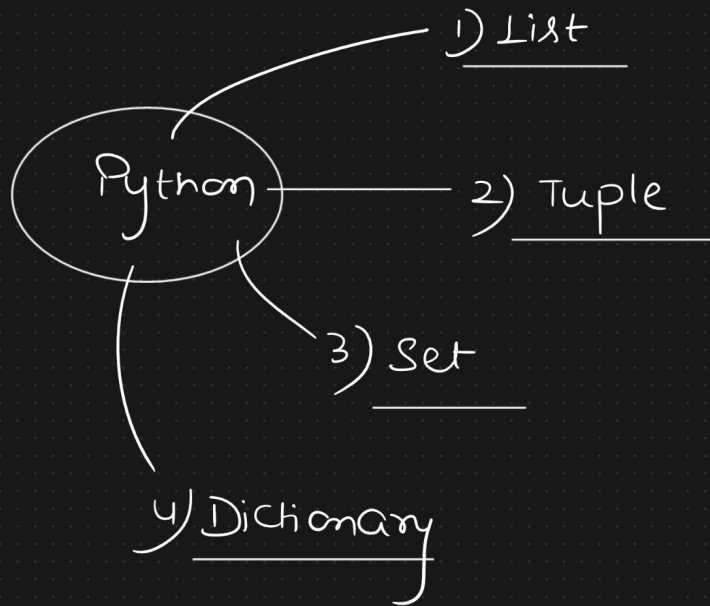
Array

Linked List

Stack

Queue

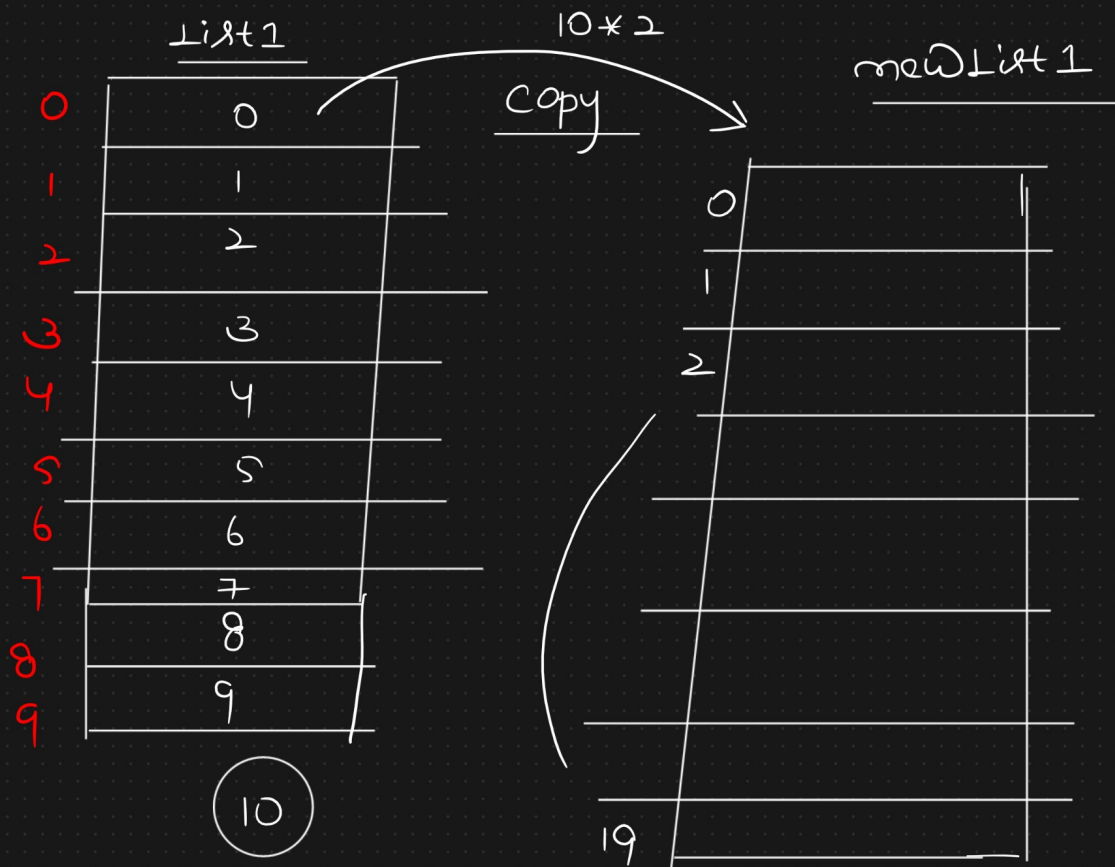
Tree & many more



Store multiple items of different type

↳ Random access

# Dynamic List



→ Change List1 = [1, 2, 3, 4]  
Mutable [1, 3, 4]

→ Machine Learning Data set CSV file

Data storage → in the form of Lists

## Tuple

↳ ( )

↳ Not changeable/immutable

↳ Tuple is faster than  
the lists

lookup / search —  $O(1)$  — key-index numbers

Set — & ♢

↳ Not ordered

Hashing

\* Does not allow duplicates

Dictionary — & ♢

↳ Key : value pair

↳ Key — Does not allow  
duplicate keys

↳ Mutable

↳ JSON — & ♢

Research work

String

Data Structure in Python

↳ comment

Short & crieps