

26-01-2025:-

DATA STRUCTURES IN PYTHON:-

- * It is the way to organizing and storing data so that it can be accessed and modified efficiently
- * It helps us to store and manage large amount of data in a simple and effective way

TYPES OF DATA STRUCTURE

1. Built In Data Structures:-

a) List: []

- * Ordered Collection that can be changed, and allow duplicates
- list = [1, 2, 3, 4]

- * It is mutable

- * It can be accessed by Index

b) Tuple: ()

- * Ordered Collection that cannot be change

- * It is not mutable

- * It can be accessed by Index.

Ex: t1 = (1, 2, 3, 4)

c) Set: { }

- * Unordered Collection of Unique elements.

Ex: s1 = {1, 2, 3}

- * It is mutable and cannot access by Index



d). Dictionary:

* Collection of key-value pairs

di = { 'a': 1, 'b': 2 }

* It also mutable and accessed by

Key

Ex:

LIST: -

l1 = [10, 20, 30]

l1.append(40)

print(l1) // [10, 20, 30, 40]

Tuple

t1 = (1, 2, 3)

print(t1[1]) // 2

//

position

Set:

S1 = {1, 2, 3, 3}

print(S1)

op: {1, 2, 3} // remove duplicates

dict:

di = { 'name': 'Vijay', 'age': 25 }

print(di['name']) // Vijay

Advantages of Data structures.

- * Efficient data storage and access
- * Easy data manipulation
- * Better memory usage
- * Supports real-world problem solving.