

## 1. Tuple :

- Tuples are similar to list data structure which store heterogeneous elements but tuples are immutable in nature
- We can access elements through index
- To declare tuple we use either **tuple()** or **t = (1,2,45,6)**
- It can have nested tuples. Ex: ( (1,2,3), (4,5,6)).
- They can contain duplicate elements.
- They can contain mutable objects. Ex: ([1,2,3], [2,3,5])

Example:

```
t1 = (('a',23), ('b',37), ('c',11), ('d', 29))

t2 = sorted(list(t1), key = lambda x:x[1])

print(tuple(t2))
```

Output:

```
(( 'c', 11), ( 'a', 23), ( 'd', 29), ( 'b', 37))
```

## 2. Set :

- Sets are the unordered data structure which stores the unique values.
- It supports mathematical expressions like **union, intersection, difference and symmetric difference**.
- Using curly brackets {} or using **set()** we can create a set.

Example:

```
s1 = {3, 2, 1, 4, 8}
s2 = {1, 2, 3, 4, 9, 10}

print("Union : ", s1.union(s2))
print("Minus/ Difference : ", s1.difference(s2))
print("Intersection : ", s1.intersection(s2))
print("Symmetric : ", s1.symmetric_difference(s2))
print("Symmetric elements : ", s1.union(s2)-s1.intersection(s2))
```

Output:

```
Union :  {1, 2, 3, 4, 8, 9, 10}
Minus/ Difference :  {8}
Intersection :  {1, 2, 3, 4}
Symmetric :  {8, 9, 10}
Symmetric elements :  {8, 9, 10}
```