Python Tuple

Python Tuple is used to store the sequence of immutable Python objects. The tuple is similar to lists since the value of the items stored in the list can be changed, whereas the tuple is immutable, and the value of the items stored in the tuple cannot be changed.

Creating a tuple

A tuple can be written as the collection of comma-separated (,) values enclosed with the small () brackets.

```
T1 = (101, "Peter", 22)
T2 = ("Apple", "Banana", "Orange")
T3 = 10,20,30,40,50

print(type(T1))
print(type(T2))
print(type(T3))
```

```
tup1 = ("creative design multimedia institute")
print(type(tup1))
#Creating a tuple with single element
tup2 = ("creative design multimedia institute ",)
print(type(tup2))
```

```
tuple1 = (10, 20, 30, 40, 50, 60)
print(tuple1)
count = 0
for i in tuple1:
    print("tuple1[%d] = %d"%(count, i))
    count = count+1
```

Example - 2

```
tuple1 = tuple(input("Enter the tuple elements ..."))
print(tuple1)
count = 0
for i in tuple1:
    print("tuple1[%d] = %s"%(count, i))
    count = count+1
```

Deleting Tuple

Unlike lists, the tuple items cannot be deleted by using the **del** keyword as tuples are immutable. To delete an entire tuple, we can use the **del** keyword with the tuple name.

Consider the following example.

```
tuple1 = (1, 2, 3, 4, 5, 6)
print(tuple1)
del tuple1[0]
print(tuple1)
del tuple1
print(tuple1)
```

Basic Tuple operations

The operators like concatenation (+), repetition (*), Membership (in) works in the same way as they work with the list. Consider the following table for more detail.

Let's say Tuple t = (1, 2, 3, 4, 5) and Tuple t1 = (6, 7, 8, 9) are declared.

Operator	Description	Example
Repetition	The repetition operator enables the tuple elements to be repeated multiple times.	`T1*2 = (1, 2, 3, 4, 5, 1, 2, 3, 4, 5)`
Concatenation	It concatenates the tuple mentioned on either side of the operator.	`T1+T2 = (1, 2, 3, 4, 5, 6, 7, 8, 9)`
Membership	It returns true if a particular item exists in the tuple otherwise false	`print (2 in T1) prints True.`

Iteration	The for loop is used to iterate over the tuple elements.	`for i in T1:`
		`  print(i)`
		Output
		`1`
		`2`
		`3`
		`4`
		`5`

Length	It is used to get the length of the tuple.	`len(T1) = 5`

Python Tuple inbuilt functions

SN	Function	Description
1	len(tuple)	It calculates the length of the tuple.
2	max(tuple)	It returns the maximum element of the tuple
3	min(tuple)	It returns the minimum element of the tuple.

why use tuple?

1. Using tuple instead of list gives us a clear idea that tuple data is constant and must not be changed.