

Assignment No. 4

Qn- what is tuple? what are its basic operations and functions?

Ans- • Tuples are immutable (non-modifiable)
 • store values of any type in a sequence.
 • It creates a fresh tuple when you make changes to an element of a tuple.
 • It is similar to string to and lists but differ its immutable property from lists only.
 • It is a standard data type of python.
 • It is depicted among using parenthesis i.e.

e.g. $()$ - empty tuple
 $(1, 2, 5, 3, 7, 9)$ - tuple of numbers

Tuple operations -

i) Joining Tuples -

+ (concatenation operation) used.

e.g. $\ggg T_1 = (1, 3, 5)$

$\ggg T_2 = (6, 7, 8)$

$\ggg T_1 + T_2$

$(1, 3, 5, 6, 7, 8)$ # join and can create new tuple.

ii) Repeat or Replicating Tuples - * used.

$\ggg T_1 * 3$

$(1, 3, 5, 1, 3, 5, 1, 3, 5)$

iii) Slicing the tuples -

Seq = T[start:stop]

```

>>> T1 = (10, 12, 14, 20, 22, 24, 30, 32, 34)
>>> Seq = T1[3:-3]
>>> Seq =
(20, 22, 24)

```

iv) Comparing tuples -

- Two tuples can be compared without using any loop code.
- <, >, ==, != etc operators are used to compare.
- individual elements are compared.

e.g ① >>> a = (2, 3)
>>> b = (2, 3)
>>> a == b

②
>>> c = ('2', '3')
>>> a == c
False

③ >>> a > b
False

Q.2 Explain dictionary and how it is created?

Ans. Dictionaries - Key: value pairs.

- Instead of using indexing method, dictionary data type uses key-value pairs.
- They are mutable and unordered collections.

- It associates Key to values.
- Curly brackets are used.

• Creating Dictionary -

$\langle \text{dict-name} \rangle = \{ \langle \text{key} \rangle : \langle \text{value} \rangle, \langle \text{key} \rangle : \langle \text{value} \rangle, \dots \}$

e.g.

① Teachers = { "shakti": "python", "Harish": "c",
"Reenu": "PHP" }

② dict = {} # empty dictionary

③ dict = { [2,3] : "abc" } # mutable type key
not allowed (list)

↳ Error

Note: Dictionary are also known as associative arrays or mapping or hashes.