Python Tuples

A comma-separated group of items is called a Python triple. The ordering, settled items, and reiterations of a tuple are to some degree like those of a rundown, but in contrast to a rundown, a tuple is unchanging.

The main difference between the two is that we cannot alter the components of a tuple once they have been assigned. On the other hand, we can edit the contents of a list.

Example

1. ("Suzuki", "Audi", "BMW"," Skoda ") is a tuple.

Features of Python Tuple

- Tuples are an immutable data type, meaning their elements cannot be changed after they are generated.

- Each element in a tuple has a specific order that will never change because tuples are ordered sequences.

Forming a Tuple:

All the objects-also known as "elements"-must be separated by a comma, enclosed in parenthesis (). Although parentheses are not required, they are recommended.

```
1.  # Python program to show how to create a tuple
2.  # Creating an empty tuple
3.  empty_tuple = ()
4.  print("Empty tuple: ", empty_tuple)
5.
6.  # Creating tuple having integers
7.  int_tuple = (4, 6, 8, 10, 12, 14)
8.  print("Tuple with integers: ", int_tuple)
9.
10. # Creating a tuple having objects of different data types
11. mixed_tuple = (4, "Python", 9.3)
12. print("Tuple with different data types: ", mixed_tuple)
13.
14. # Creating a nested tuple
15. nested_tuple = ("Python", {4: 5, 6: 2, 8:2}, (5, 3, 5, 6))
16. print("A nested tuple: ", nested_tuple)
```

Output:

```
Empty tuple:  ()
Tuple with integers:  (4, 6, 8, 10, 12, 14)
Tuple with different data types:  (4, 'Python', 9.3)
A nested tuple:  ('Python', {4: 5, 6: 2, 8: 2}, (5, 3, 5, 6))
```

Python Dictionary

Dictionaries are a useful data structure for storing data in Python because they are capable of imitating real-world data arrangements where a certain value exists for a given key.

The data is stored as key-value pairs using a Python dictionary.

- This data structure is mutable
- The components of dictionary were made using keys and values.
- Keys must only have one component.
- Values can be of any type, including integer, list, and tuple.

A dictionary is, in other words, a group of key-value pairs, where the values can be any Python object. The keys, in contrast, are immutable Python objects, such as strings, tuples, or numbers. Dictionary entries are ordered as of Python version 3.7. In Python 3.6 and before, dictionaries are generally unordered.

Creating the Dictionary

Curly brackets are the simplest way to generate a Python dictionary, although there are other approaches as well. With many key-value pairs surrounded in curly brackets and a colon separating each key from its value, the dictionary can be built. (:). The following provides the syntax for defining the dictionary.

Syntax:

1. Dict = {"Name": "Gayle", "Age": 25}

In the above dictionary **Dict**, The keys **Name** and **Age** are the strings which comes under the category of an immutable object.

Let's see an example to create a dictionary and print its content.

Code

1. Employee = {"Name": "Johnny", "Age": 32, "salary":26000,"Company":"^TCS"}

2. **print**(type(Employee))
3. **print**("printing Employee data .... ")
4. **print**(Employee)

Output

```
<class 'dict'>
printing Employee data ....
{'Name': 'Johnny', 'Age': 32, 'salary': 26000, 'Company': TCS}
```