



Python!

By- Mugdha Panhale,

Finitely Infinite Systems Pvt. Ltd.





What is a Tuple?

```
my_tuple = ()  
type (my_tuple)  
o/p : tuple
```

Creating a Tuple

```
my_tuple = (1, 2, 3)  
my_tuple  
o/p (1, 2, 3)
```

```
my_tuple_1 = (1, 'hello', 2.5)  
my_tuple_1  
o/p : (1, 'hello', 2.5)
```



Creating a Tuple

```
my_tuple_2 = ('football', [1, 2, 3], ('hello', 'goodbye'))
```

```
my_tuple_2
```

```
o/p : ('football', [1, 2, 3], ('hello', 'goodbye'))
```

```
my_tuple_3 = 1, 'spain', [1, 2, 3]
```

```
my_tuple_3
```

```
o/p : (1, 'spain', [1, 2, 3])
```

```
type(my_tuple_3)
```

```
o/p tuple
```

```
my_tuple_4= ('hello')
```

```
type(my_tuple_4)
```

```
o/p : str
```



Creating a Tuple

```
my_tuple_4= ('hello',)
type(my_tuple_4)
o/p tuple
```

we simply add elements to our brackets and we separate them by a comma, we can include any data type or structure.

So integers, floating point numbers and strings.

And we can even include other data structures such as lists or two poles.

Tuple

Accessing Tuple elements

```
my_tuple = (1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))
```

```
my_tuple[4]
```

o/p : 5

```
my_tuple[7]
```

o/p ; IndexError: tuple index out of range

```
my_tuple [2.5]
```

o/p : TypeError: tuple indices must be integers or slices, not float

```
my_tuple
```

```
(1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))
```

```
my_tuple [6]
```

o/p : (9, 10, 11)

Tuple

Accessing Tuple elements

`my_tuple`

`(1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))`

`my_tuple [6][1]`

o/p : 10

We can use negative indexing

`my_tuple [-1][-1]`

o/p : 11

Index 0 upto 3rd element.

`my_tuple [0:3]`

o/p : (1, 2, 3)



Accessing Tuple elements

```
my_tuple [:3]
```

```
o/p : (1, 2, 3)
```

```
my_tuple [: ]
```

```
o/p : (1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))
```

```
my_tuple [-3:]
```

```
o/p : (5, [6, 7, 8], (9, 10, 11))
```



Changing Tuple elements

```
my_tuple (1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))
```

```
my_tuple[0]
```

```
o/p : 1
```

```
my_tuple[0] = 'hello'
```

```
o/p s: TypeError: 'tuple' object does not support item assignment
```

```
my_tuple[5]
```

```
o/p : [6, 7, 8]
```

```
my_tuple[5][2]
```

```
o/p : 8
```



Changing Tuple elements

```
my_tuple[5][2] = 80
```

```
my_tuple
```

```
o/p : (1, 2, 3, 4, 5, [6, 7, 80], (9, 10, 11))
```

```
type (my_tuple[5])
```

```
o/p : list
```

```
my_tuple [5].append(100)
```

```
my_tuple
```

```
o/p : (1, 2, 3, 4, 5, [6, 7, 80, 100], (9, 10, 11))
```



Changing Tuple elements
by reassigning the values

```
my_tuple  
o/p : (1, 2, 3, 4, 5, [6, 7, 80, 100], (9, 10, 11))  
my_tuple ('one', 'two', 'three')  
my_tuple  
o/p : ('one', 'two', 'three')
```

```
my_tuple  
o/p : ('one', 'two', 'three')  
my_tuple + ('four', 'five', 'six')  
o/p : ('one', 'two', 'three', 'four', 'five', 'six')
```



Changing Tuple elements

```
my_tuple
```

```
o/p : ('one', 'two', 'three')
```

```
my_tuple_1 = my_tuple + ('four', 'five', 'six')
```

```
my_tuple_1
```

```
o/p : ('one', 'two', 'three', 'four', 'five', 'six')
```

```
my_tuple
```

```
o/p : ('one', 'two', 'three')
```

```
my_tuple * 2
```

```
o/p : ('one', 'two', 'three', 'one', 'two', 'three')
```

Tuple

Deleting a Tuple

```
my_tuple (1, 2, 3, 4, 5, [6, 7, 8], (9, 10, 11))
```

```
my_tuple[0]
```

```
o/p : 1
```

```
del my_tuple[0]
```

```
o/p : TypeError: 'tuple' object doesn't support item deletion
```

```
del my_tuple
```

```
my_tuple
```

```
o/p : NameError: name 'my_tuple' is not defined
```



Tuple Methods & Operations

```
my_tuple (1, 1, 1, 1, 2, 3, 4, 1, 1)
```

```
my_tuple.count(1)
```

o/p : 6

```
my_tuple.index(2)
```

o/p : 4

```
my_tuple.index(1)
```

o/p : 0

```
my_tuple.index(1, 5)
```

o/p : 7

This is because it's starting from element six and the first occurrence of one is at index seven.



Tuple Methods & Operations

1 in my_tuple
o/p : True

5 in my_tuple
o/p : False

5 not in my_tuple
o/p : True

Tuple

Tuple Unpacking

```
my_tuple = (1, 2, 'hello', 2.5)
```

```
my_tuple
```

```
o/p : (1, 2, 'hello', 2.5)
```

```
type(my_tuple)
```

```
o/p : tuple
```

```
a, b, c, d = my_tuple
```

```
print(a)
```

```
o/p : 1
```

```
print(c)
```

```
o/p : 'hello'
```

```
d
```

```
o/p : 2.5
```

Tuple

Tuple Unpacking

```
a, b, c = my_tuple
```

```
o/p : ValueError: too many values to unpack (expected 3)
```