Tuple

- Tuples are used to store multiple values in a single variable.
- Tuple is one of the 4 built-in data types in a python used to store collections of data.
- A tuple is a collection which is ordered and unchangeable.
- Tuples are denoted with round brackets.

```
1 vehicles = ('car','bike','truck','jeep','bus')
2 vehicles
```

```
('car', 'bike', 'truck', 'jeep', 'bus')
```

Tuple Items

- Tuple items are ordered, changeable and allow duplicate values.
- Tuple items are indexed, the first item has index [0] and so on...

Ordered

- When we say tuples are ordered, it means that the items have the items have a defined order, and that order will not change.

Unchangeable

- Tuples are unchangeable means that we cannot change, add or remove items after the tuple has been created.

Allow Duplicates

- tuples are indexed, so they can have items with same value.

```
1 vehicles = ('car','bike','truck','jeep','bus','truck','jeep','scooty','tempo','train','truck','jeep')
2 print(vehicles)
```

```
('car', 'bike', 'truck', 'jeep', 'bus', 'truck', 'jeep', 'scooty', 'tempo', 'train', 'truck', 'jeep')
```

Tuple Length

- To get how many items a tuple has, we used len() function.

```
1 len(vehicles)
```

```
12
```

Create a Tuple with one item

- To recognize a tiple with only one item, you have to add a comma after the item, otherwise python will not recognize it as a tuple.

```
1 # it will recognize as a string
2 thistupple = ('apple')
3 thistupple
```

```
'apple'
```

```
1 type(thistupple)
```

```
str
```

```
1 thistupple = ('apple',)
2 thistupple
```

```
('apple',)
```

```
1 type(thistupple)
```

```
    tuple
```

▾ Tuple Items - Data Type

- Tuples can store values with any data type.

```
1 thistuple = ('vaibhav',73,'mumbai',True,'male')
2 thistuple
```

```
    ('vaibhav', 73, 'mumbai', True, 'male')
```

▾ Type

- From Python's perspective, tuples are defined as objects with the data type 'tuple'

```
1 print(type(thistuple))
```

```
    <class 'tuple'>
```

▾ The tuple() Constructor

- It is also possible to use tuple constructor to make a tuple.

```
1 tuple1 = tuple(('vaibhav','dbda',73))
2 tuple1
```

```
    ('vaibhav', 'dbda', 73)
```

```
1
```

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