Tuple

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Tuple

Tuple

- Tuple is a collection of **immutable** elements.
- It maintains the insertion order and supports index based access.
- It can contain elements of different types.
- Elements are enclosed in parentheses ( ).
- If there is only one element it must be terminated with a comma.

```
Examples:

t_1 = (1, '@', 'wipro', 5.5)

t_2 = (100, 200, 300)

t_3 = ('john',)
```

Accessing tuple items

Accessing tuple items

- Items in a tuple can be accessed with both positive and negative indexes.
- Positive index starts from 0.
- Negative index starts from -1 from the last item.

```
Program:

    # 0    1    2
tup = (100, 200, 300)
    # -3   -2   -1

print(tup[1]) #accessing second element
print(tup[-1]) #accessing last element
```

```
Output:

200

300
```

Slicing

Slicing

- We can extract a set of items from a tuple by mentioning the start and end indexes.
- While specifying this start and end range, the returned value will be a new tuple with the specified items.

```
Program:

        # 0        1        2        3
tup = ('car', 'bus', 'ship', 'train')
print(tup[1:3])
```

```
Output:

('bus', 'ship')
```

Ending index is excluded.

Slicing

Negative slicing:

```
Program:
        # -4          -3        -2          -1
tup = ('car', 'bus', 'ship', 'train')
print(tup[-4:-2])
```

```
Output:

('car', 'bus')
```

Updating tuple

Updating tuple

Tuples are immutable, but we can update the items in this way:

1. Convert the tuple into a list using list( ) constructor.

2. Update the list.

3. Convert the list back to tuple using tuple( ) constructor.

```
Program:
tup = ('car', 'bus', 'ship')
li = list(tup)
li[0] = 'flight'
tup = tuple(li)
print(tup)
```

```
Output:

('flight','bus','ship')
```

for loop with tuple

for loop with tuple

We can loop through the tuple items by using a for loop:

```
Program:

tup = ('car', 'bus', 'ship', 'train')

for item in tup:

    print(item)
```

```
Output:

car
bus
ship
train
```

in keyword with tuple

in keyword with tuple

To check if a specified item is present in a tuple we can use the in keyword:

```
Program:

tup = ('car', 'bus', 'ship', 'train')

if 'flight' in tup:

    print("Yes present")
else:

    print("Not present")
```

```
Output:

Not present
```

Thank you