Python Lab Batch S13 Date 27/01/2022, Batch Prof. Dr. Shachi Natu

Tuples

- elements of same or different data types
- immutable (read only)
- Used to store data which should not be modified

In [57]:

```
1  t = (1,2,3,True,"abc")
```

In [58]:

```
1  print(type(t))
```

<class 'tuple'>

In [59]:

```
1  t =tuple()
```

In [60]:

```
1  t
```

Out[60]:

()

In [61]:

```
1  t = (10)
```

In [62]:

```
1  print(type(t))
```

<class 'int'>

In [63]:

```
1  t = (10,)
```

In [64]:

```
1  print(type(t))
```

In [65]:

```python
1  t  = 1,2,3,True, "abc"
```

In [66]:

```python
1  t
```

Out[66]:

```
(1, 2, 3, True, 'abc')
```

In [67]:

```python
1  print(type(t))
```

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

In [68]:

```python
1  t[0]
```

Out[68]:

```
1
```

In [69]:

```python
1  t[1:4]
```

Out[69]:

```
(2, 3, True)
```

In [70]:

```python
1  t[-1]
```

Out[70]:

```
'abc'
```

In [71]:

```python
1  # accessing elements of tuple
2  for element in t:
3      print(element)
```

```
1
2
3
True
abc
```

In [72]:

```python
for i in range(len(t)):
    print(t[i])
```

```
1
2
3
True
abc
```

In [73]:

```python
t2 = ('tuple', [2,3,4,5],(1,2,3))
```

In [75]:

```python
# concatenate t1 and t2

result = t+t2
print(result)
```

```
(1, 2, 3, True, 'abc', 'tuple', [2, 3, 4, 5], (1, 2, 3))
```

In [76]:

```python
result[0]=10
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-76-df71b64e99a9> in <module>()
----> 1 result[0]=10

TypeError: 'tuple' object does not support item assignment
```

In [77]:

```python
del(result)
```

In [78]:

```python
print(result)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-78-6459d04d738f> in <module>()
----> 1 print(result)

NameError: name 'result' is not defined
```

In [79]:

```python
n = int(input("Enter number of elements"))
tmp=[]
for i in range(n):
    ele = int(input("Enter the element: "))
    tmp.append(ele)
```

Enter number of elements3
Enter the element: 10
Enter the element: 20
Enter the element: 30

In [80]:

```python
print(tmp)
print(type(tmp))
```

[10, 20, 30]
<class 'list'>

In [81]:

```python
tmp = tuple(tmp)
print(tmp)
print(type(tmp))
```

(10, 20, 30)
<class 'tuple'>

In [82]:

```python
t3 = ((1,2,3),(4,5,6),"python")
```

In [83]:

```python
t3[0]
```

Out[83]:

(1, 2, 3)

In [85]:

```python
t3[0][1]
```

Out[85]:

2

In [86]:
```
1 print(dir(tuple))
```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc_
_', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__', '__
getnewargs__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__ite
r__', '__le__', '__len__', '__lt__', '__mul__', '__ne__', '__new__', '__redu
ce__', '__reduce_ex__', '__repr__', '__rmul__', '__setattr__', '__sizeof__',
'__str__', '__subclasshook__', 'count', 'index']

In [88]:
```
1 t3.count("python")
```
Out[88]:

1

In [89]:
```
1 t2
```
Out[89]:

('tuple', [2, 3, 4, 5], (1, 2, 3))

In [90]:
```
1 t
```
Out[90]:

(1, 2, 3, True, 'abc')

In [92]:
```
1 t.index(5)
```

ValueError   Traceback (most recent call last)
<ipython-input-92-3bc0374a84de> in **<module>()**
----> **1** t.index(5)

ValueError: tuple.index(x): x not in tuple

In [ ]:
```
1
```