Tuple Creation

```
In [1]: t=()
        t
```

Out[1]: ()

```
In [2]: type(t)
```

Out[2]: tuple

```
In [3]: len(t)
```

Out[3]: 0

```
In [4]: t1=(3,2,
          5,67,86,34,23)
        t1
```

Out[4]: (3, 2, 5, 67, 86, 34, 23)

```
In [5]: t2=(10,24.4,True,1+2j,'swapna')
```

```
In [6]: t2
```

Out[6]: (10, 24.4, True, (1+2j), 'swapna')

```
In [7]: t3=(200,40,24,56)
```

```
In [8]: t3
```

Out[8]: (200, 40, 24, 56)

```
In [9]: t3=(10.34,45,23,(30,56))
```

```
In [10]: t3
```

Out[10]: (10.34, 45, 23, (30, 56))

```
In [11]: t4=('sridhar','swapna','sreecharan','mokshith')
```

```
In [12]: t4
```

Out[12]: ('sridhar', 'swapna', 'sreecharan', 'mokshith')

```
In [13]: len(t3)
```

Out[13]: 4

```
In [14]: len(t4)
```

Out[14]: 4

Tuple Indexing

In [15]: `t1`

Out[15]: `(3, 2, 5, 67, 86, 34, 23)`

In [16]: `t1[1]`

Out[16]: `2`

In [17]: `t1[-3]`

Out[17]: `86`

In [18]: `t4`

Out[18]: `('sridhar', 'swapna', 'sreecharan', 'mokshith')`

In [19]: `t4[0]`

Out[19]: `'sridhar'`

In [20]:
```
print(t4[0])
print(t4[1])
print(t4[2])
print(t4[3])
```

```
sridhar
swapna
sreecharan
mokshith
```

In [21]: `t3`

Out[21]: `(10.34, 45, 23, (30, 56))`

In [22]: `t3[4]`

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Cell In[22], line 1
----> 1 t3[4]

IndexError: tuple index out of range
```

In [33]: `t3[3]`

Out[33]: `(30, 56)`

In [34]: `t3[-1]`

Out[34]: `(30, 56)`

```
In [35]: t2
```

```
Out[35]: (10, 24.4, True, (1+2j), 'swapna')
```

```
In [36]: t5=(35,45,3.5,23,56,78,78,'hi',1+2j)
```

```
In [37]: t5
```

```
Out[37]: (35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))
```

TUPLe Slicing

```
In [38]: t5
```

```
Out[38]: (35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))
```

```
In [39]: t5[:]
```

```
Out[39]: (35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))
```

```
In [40]: t5[::]
```

```
Out[40]: (35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))
```

```
In [41]: t5[:5]
```

```
Out[41]: (35, 45, 3.5, 23, 56)
```

```
In [42]: t5[5:]
```

```
Out[42]: (78, 78, 'hi', (1+2j))
```

```
In [43]: t5[:-4]
```

```
Out[43]: (35, 45, 3.5, 23, 56)
```

```
In [44]: t5[-4:]
```

```
Out[44]: (78, 78, 'hi', (1+2j))
```

```
In [45]: t5[::2]
```

```
Out[45]: (35, 3.5, 56, 78, (1+2j))
```

```
In [46]: t5[2:5]
```

```
Out[46]: (3.5, 23, 56)
```

```
In [47]: t5[1:5:2]
```

```
Out[47]: (45, 23)
```

```
In [48]: t5
```

Out[48]: (35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))

In [49]: `t5[0:8:2]`

Out[49]: (35, 3.5, 56, 78)

In [50]: `t5[1:8:2]`

Out[50]: (45, 23, 78, 'hi')

In [51]: `t5[:-4]`

Out[51]: (35, 45, 3.5, 23, 56)

In [52]: `t5[-4:]`

Out[52]: (78, 78, 'hi', (1+2j))

Remove & change Items

In [53]: `t5.remove(35)`

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
Cell In[53], line 1
----> 1 t5.remove(35)

AttributeError: 'tuple' object has no attribute 'remove'
```

In [54]: `t5.remove(3.5)`

```
---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
Cell In[54], line 1
----> 1 t5.remove(3.5)

AttributeError: 'tuple' object has no attribute 'remove'
```

In [55]: `t5[2]=30`

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[55], line 1
----> 1 t5[2]=30

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

In [ ]: `#Loop Through Indexing`

In [57]: `t6=(30,45,54,36,76)`

In [58]: `t6`

Out[58]: (30, 45, 54, 36, 76)

```python
for i in t6:
    print(i)
```

```
30
45
54
36
76
```

```python
for i in enumerate(t5):
    print(i)
```

```
(0, 35)
(1, 45)
(2, 3.5)
(3, 23)
(4, 56)
(5, 78)
(6, 78)
(7, 'hi')
(8, (1+2j))
```

Tuple Membership

In [61]:
```python
t7=(4,6,7,3,2,8,9)
```

In [62]:
```python
t7
```

Out[62]: (4, 6, 7, 3, 2, 8, 9)

In [63]:
```python
4 in t7
```

Out[63]: True

In [64]:
```python
5 in t7
```

Out[64]: False

In [65]:
```python
10 in t7
```

Out[65]: False

In [66]:
```python
1 in t7
```

Out[66]: False

In [67]:
```python
if 4 in t7:
    print('4 is present in the t7')
else:
    print('4 is not present in the t7')
```

```
4 is present in the t7
```

In [68]:
```python
if 1 in t7:
    print('1 is present in the t7')
else:
    print('1 is not present in the t7')
```

```
1 is not present in the t7
```

In [69]: `t7`

Out[69]: `(4, 6, 7, 3, 2, 8, 9)`

Tuple Indexing

In [70]: `t7`

Out[70]: `(4, 6, 7, 3, 2, 8, 9)`

In [71]: `t7`

Out[71]: `(4, 6, 7, 3, 2, 8, 9)`

In [72]: `t5`

Out[72]: `(35, 45, 3.5, 23, 56, 78, 78, 'hi', (1+2j))`

In [77]: `t5.index(45)`

Out[77]: `1`

In [75]: `t5.index(78)`

Out[75]: `5`

In [78]: `t5.index('hi')`

Out[78]: `7`

sorting

In [80]: `sorted(t7)`

Out[80]: `[2, 3, 4, 6, 7, 8, 9]`

In [81]: `sorted(t7,reverse=True)`

Out[81]: `[9, 8, 7, 6, 4, 3, 2]`

In [82]: `t8=('sridhar','swapna','sreecharan','mokshith')`

In [83]: `sorted(t8)`

Out[83]: `['mokshith', 'sreecharan', 'sridhar', 'swapna']`

In [ ]: `sorted(`

In [ ]:

In [ ]: