

In []:

```
#tuples
x=(1,2,3)
x[2]=7
```

```
-----
-
TypeError                                Traceback (most recent call las
t)
<ipython-input-4-87f45717a5a3> in <module>()
      1 #tuples
      2 x=(1,2,3)
----> 3 x[2]=7
```

TypeError: 'tuple' object does not support item assignment

In []:

```
t = ("tuples", "are", "immutable")
#To create a tuple with a single element, we have to include the final comma:
t1 = ('a',)
print(type(t1))
t2 = ('a')
print(type(t2))
```

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

In []:

```
#tuple indexing
a=(1,2,3,4)
print (a[0])
```

1

In []:

```
#A tuple can also be created without using parentheses. This is known as tuple packing.
t = 3, 4.6, "cat"
print(t)
```

(3, 4.6, 'cat')

In []:

```
#We can swap values of two tuples
t1=(10,20,30)
t2=(100,200)
t2,t1=t1,t2
print (t2)
```

(10, 20, 30)

In []:

```
#tuples-concatination adding new elements to tuple
x=(1,2,3)
y=('a','b','c')
print (x+y)
z=(3,)
print(x+z)
```

```
(1, 2, 3, 'a', 'b', 'c')
(1, 2, 3, 3)
```

In []:

```
#list to tuples and tuples to list
l1=[1,2,3]
print (tuple(l1))
t1=(1,2,3)
print (list(t1))
```

```
(1, 2, 3)
[1, 2, 3]
```

In []:

```
#TUPLE METHODS AND BUILDIN FUNCTIONS
#zip(list of tuples)
l1=(1,2,3)
l2=(3,4,5)
l3=zip(l1,l2)
print(type(l3))
print (tuple(l3))
```

```
<class 'zip'>
((1, 3), (2, 4), (3, 5))
```

In []:

```
#count,index,max and min ,del
l1=(1,2,3,1,1,3)
print(l1.count(1))
print(l1.index(3))
print(max(l1))
print (min(l1))
del(l1)
```

```
3
2
3
1
```

In []:

```
2#Program to read numbers and find minimum, maximum and sum using Tuple
n=int(input("Enter how many numbers...."))
print("Enter the numbers")
t=tuple()
for i in range(n):
    x=int(input())
    t=t+(x,)
print("minimum=",min(t))
print("maximum=",max(t))
print("sum=",sum(t))
```

Enter how many numbers....4

Enter the numbers

1

5

8

3

minimum= 1

maximum= 8

sum= 17

In []:

```
#enter elements to tuple at runtime..convert tuple to list use append function and then
list to tuple
t=tuple()
l1=list(t)
print("enter no of elements")
n=int(input())
for i in range(0,n):
    l1.append(int(input()))
print (tuple(l1))
```

enter no of elements

4

2

7

1

2

(2, 7, 1, 2)

In []:

```
#tuple unpacking
(a,b,c)=(1,2,3)
print(a)
(a,*b,c)=(1,2,3,4,5)
print (c)
print(a)
```

1

5

1

In []:

```
a=(10,20,30,40)
b=(1,2)
(b,a)=(a,b)
print (a)
print(b)
```

```
(1, 2)
(10, 20, 30, 40)
```