In [1]:
```
# Tuple() :

## It Is Used To Stored Multiple Data Elements In A Single Object.
## Immutable : It Can Not Be Modify.
## Ordered
## Allow To Store Duplicate Values.
## Support Index Value.
```

In [2]:
```
'''
   ## Tuple :

      ==> It Is Used To Store Multiple Data Elements.

      ==> It Supports The Duplicate Data Elements.

      ==> Ordered

      ==> Imutable

          : It Can Not Modify

'''
""
```

Out[2]:
```
''
```

How To Make Tuple

In [1]:
```
## Use : ()
```

In [2]:
```
t1 = ()
```

In [3]:
```
t1
```

Out[3]:
```
()
```

In [4]:
```
type(t1)
```

Out[4]:
```
tuple
```

In [5]:
```
t2 = ("Sean")
```

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

Out[6]:
```
'Sean'
```

In [7]:
```
type(t2)
```

Out[7]:
```
str
```

Note : Tuple Can Not Stored A Single Element

In [8]:
```
t2 = ("Sean",)
```

In [9]:
```
t2
```

Out[9]:
```
('Sean',)
```

In [10]:
```
type(t2)
```

Out[10]:
```
tuple
```

Ordered

In [11]:
```
t5 = (100,25,125,2,1,10)
```

In [12]:
```
t5
```

Out[12]:
```
(100, 25, 125, 2, 1, 10)
```

Support Duplicate Items

In [13]:
```
t6 = ("Sean","Sean")
```

In [14]:
```
t6
```

Out[14]:
```
('Sean', 'Sean')
```

How To Check The Length of The Tuple

In [15]:
```
## use : len()
## It Is Used To Check The length of The Tuple
```

In [16]:
```
t2
```

Out[16]:
```
('Sean',)
```

In [17]:
```
print("No of Elements Are :",len(t2))
```

```
No of Elements Are : 1
```

Index

In [18]:
```
t1 = ("Mike","Jack","Luke","Ryan","Kyle")
```

In [19]:
```
t1
```

Out[19]:
```
('Mike', 'Jack', 'Luke', 'Ryan', 'Kyle')
```

In [20]:
```
t1[0]
```

Out[20]:
```
'Mike'
```

In [21]:
```
t1[5]
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
Input In [21], in <cell line: 1>()
----> 1 t1[5]

IndexError: tuple index out of range
```

In [24]:
```
t1[4]
```

Out[24]:
```
'Kyle'
```

In [22]:
```
t1[::2]
```

Out[22]:
```
('Mike', 'Luke', 'Kyle')
```

Immutable

In [23]:
```
t1
```

Out[23]:
```
('Mike', 'Jack', 'Luke', 'Ryan', 'Kyle')
```

In [24]:
```
t1[0]
```

Out[24]:
```
'Mike'
```

In [25]:
```
t1[0] = "Jackie"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Input In [25], in <cell line: 1>()
----> 1 t1[0] = "Jackie"

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

Slicing/Indexing

In [28]:
```
t1
```

Out[28]:
```
('Mike', 'Jack', 'Luke', 'Ryan', 'Kyle')
```

In [29]:
```
t1[0::2]
```

Out[29]:
```
('Mike', 'Luke', 'Kyle')
```

In [31]:
```
t1[1:5:2]
```

Out[31]:
```
('Jack', 'Ryan')
```

How To Make Tuple Input Function

In [32]:
```
## Use : tuple(input().split())
```

In [27]:
```
data = tuple(input().split())
print("\nEmp Data :",data)
```

```
Mike Jack Luke Peter Finn

Emp Data : ('Mike', 'Jack', 'Luke', 'Peter', 'Finn')
```

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

Out[2]:
```
tuple
```

Methods

In [3]:
```
dir(tuple)
```

Out[3]:
```
['__add__',
 '__class__',
 '__class_getitem__',
 '__contains__',
 '__delattr__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getitem__',
 '__getnewargs__',
 '__gt__',
 '__hash__',
 '__init__',
 '__init_subclass__',
 '__iter__',
 '__le__',
 '__len__',
 '__lt__',
 '__mul__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__rmul__',
 '__setattr__',
 '__sizeof__',
 '__str__',
 '__subclasshook__',
 'count',
 'index']
```

In [4]:
```
'''
     ## Count()
     ## Index()
'''
""
```

Out[4]:
```
''
```

count()

In [5]:
```
'''
 ## count() :

      => It Is Used To Count Perticular Data Eleement.

      => Syntax :

                    tuple_name.count(element)
'''
""
```

Out[5]:
```
''
```

In [28]:
```
data
```

Out[28]:
```
('Mike', 'Jack', 'Luke', 'Peter', 'Finn')
```

In [29]:
```
data.count("Mike")
```

Out[29]:
```
1
```

In [30]:
```
data.count(input("Enter Value :"))
```

Out[30]:
```
Enter Value :AB
0
```

In [31]:
```
inp = input("Do You Want To Count The Perticular Element ? :")
if inp =="Yes":
    value = input("\nEnter The Value :")
    print()
    print(value,"Is :", data.count(value))
else:
    print("\nExit..")
```

```
Do You Want To Count The Perticular Element ? :Yes

Enter The Value :Mike

Mike Is : 1
```

index()

In [11]:
```
'''
  ## index() :

      => It Is Used To Check The Pos/Index Value of Any Element.

      ## Syntax :

                  tuple_name.index(Element)

'''
''
```

Out[11]:
```
''
```

In [32]:
```
data.index("Finn")
```

Out[32]:
```
4
```

In [33]:
```
data
```

Out[33]:
```
('Mike', 'Jack', 'Luke', 'Peter', 'Finn')
```

In [35]:
```
data.index("Jack")
```

Out[35]: 1

In [36]:
```
data.index(input("Enter Value :"))
```

```
Enter Value :Jenny
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Input In [36], in <cell line: 1>()
----> 1 data.index(input("Enter Value :"))

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

Handle The Error

In [17]:
```
value = input("Enter Value :")
if value in data:
    value = input("\nEnter Value To Check Index No :")
    print("\nIndex No Is :",data.index(value))
else:
    print("\nGiven Value :",value,"Is Not Exist.")
```

```
Enter Value :Jack

Enter Value To Check Index No :Finn

Index No Is : 4
```

In [18]:
```
value = input("Enter Value :")
if value in data:
    value = input("\nEnter Value To Check Index No :")
    print("\nIndex No Is :",data.index(value))
else:
    print("\nGiven Value :",value,"Is Not Exist.")
```

```
Enter Value :Jenny

Given Value : Jenny Is Not Exist.
```

In [19]:
```
data
```

Out[19]: ('Mike', 'Jack', 'Luke', 'Peter', 'Finn')

In [20]:
```
data[0]
```

Out[20]: 'Mike'

In [21]:
```
data[0] = "Jenny"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Input In [21], in <cell line: 1>()
----> 1 data[0] = "Jenny"

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

In [ ]: