6 Nov

Q: find the largest

list = { 2, 5, 1, 7, 9, 2, 3 }

indices: 0, 1, 2, 3, 4, 5, 6

```
max = list[0]
l = len(list)
for i in range(1, l):
    if (list[i] > max):
        max = list[i]


print("          ", max)
```

Tuple

$\hookrightarrow$ used to store multiple data in single variable

tuple = ( ) $\longrightarrow$ ordered

$\longrightarrow$ | Cannot modify |

$\longrightarrow$ can store duplicate value

list = { } $\rightarrow$ | Can modify |

```python
tp = (1,2,3,4,5)
print(tp)
print(type(tp))
```

```python
tp = (1,2,"Arun",4,5)
print(tp)
print(type(tp))
```

```python
tp = (1,2,3,["Arun", "Sourav"], (2.2, 3.4))
print(tp)
print(type(tp))
```

Creating tuple with Single element

```python
tp = ("Arun")
print(tp)
print(type(tp))
```

```
Arun
<class 'str'>
```

```python
tp = ("Arun",)
print(tp)
print(type(tp))
```

```
('Arun',)
<class 'tuple'>
```

tuple() Constructor

```python
tp = tuple(("Arun", "Amit", "Sumit"))
print(tp)
print(type(tp))
```

To modify the tuple first convert the tuple to list and perform the required operation and then again convert list to tuple

```python
tp = (1,2,3,4,3,6,7,1,9)
l = list(tp)
l[2]=10
tp=tuple(l)
print(tp)
```

```python
tp = (1,2,3,4,3,6,7,1,9)
l = list(tp)
l.remove(6)
tp=tuple(l)
print(tp)
```

Adding 2 tuple

```python
tp1 = (1,2,3,4)
tp2 = (5,6,7,8)
tp3 = tp1 + tp2 + (9,)
print(tp3)
```

to find the count to element

```python
tp1 = (1,2,3,4,3)
count = tp1.count(3)
print(count)
```

Delete

```python
tp1 = (1,2,3,4,3)
del tp1
print(tp1)
```

```python
tp1 = ("Arun" , "Sourav", "Gourav")
for i in tp1:
    print(i)


print("=======for loop with range========")

tp1 = ("Arun" , "Sourav", "Gourav")
l = len(tp1)
for i in range(l):
    print(tp1[i])


print("=======while loop with range========")

tp1 = ("Arun" , "Sourav", "Gourav")
i=0
while (i<len(tp1)):
    print(tp1[i])
    # i+=1
    i = i+1
```

Write a program to take 5 input from the user using for loop and store it in the tuple

```python
tp = ()
for i in range(5):
    num = input("Enter the number")
    tp = tp+(num,)
    print(tp)
```

Dictionary

store the data in key value pair
 [ ] -> list
 ( ) -> tuple
 { } -> dictonary

key : value

```python
dict = {
    "stdId" : "12345",
    "stdName" : ["Arun", "Amit"],
    "marks" : 80,
}

print(dict)
```

```python
dict = {
    1 : 1**3,
    2 : 2**3,
    3 : 3**3,
}

print(dict)
```

```python
a = dict(name="Arun", marks=80, country="india")
print(a)
```

```python
a ={
    "name" : "Arun",
    "age" : 28 ,
    "state" : "Delhi"
}
print(a["name"])
print(a.get("state"))
```

Adding elements in existing dictonary

```python
a ={
    "name" : "Arun",
    "age" : 28 ,
    "state" : "Delhi"
}
a.update({"mail Id" : "arunkumarkv29@gmail.com"})
print(a)
```

Remove Element

```python
a ={
    "name" : "Arun",
    "age" : 28 ,
    "state" : "Delhi"
}
a.pop("age")
print(a)
```

```python
a ={
    "name" : "Arun",
    "age" : 28 ,
    "state" : "Delhi"
}
del a["age"]
# a.pop("age")
print(a)
```

```python
a ={
    "name" : "Arun",
    "age" : 28 ,
    "state" : "Delhi"
}
a.clear()
# a.pop("age")
print(a)
```