Python Zero to Hero | Day 2 | LetsUpgrade

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```
#slicing of the list


li = [10,20,45,61,78]
print(li[0:3])

     [10, 20, 45]


print(li[:3])

     [10, 20, 45]


print(li[1:3])

     [20, 45]


print(li[1:])

     [20, 45, 61, 78]


print(li[:])

     [10, 20, 45, 61, 78]


print(li[-3])

     45


li = [10,20,45,61,78]
print(li[1:5])

     [20, 45, 61, 78]


li = [10,20,45,61,78] #start , #end , #step
print(li[1:5:1])

     [20, 45, 61, 78]
```

```
li = [10,20,45,61,78]
print(li[1:5:2])
```

```
     [20, 61]
```

```
print(li[: : 1])
```

```
     [10, 20, 45, 61, 78]
```

```
print(li[: : 2])
```

```
     [10, 45, 78]
```

```
print(li[: : -1])
```

```
     [78, 61, 45, 20, 10]
```

```
print(li[: : -2])
```

```
     [78, 45, 10]
```

```
li = [10,20,45,61,78]
```

```
li
```

```
     [10, 20, 45, 61, 78]
```

```
li.reverse()
print(li)
```

```
     [78, 61, 45, 20, 10]
```

```
li
```

```
     [78, 61, 45, 20, 10]
```

```
li2=[1,5,10]
```

```
print(li2 * 3) #repetion of list
```

```
     [1, 5, 10, 1, 5, 10, 1, 5, 10]
```

```
first = [1,2,3] #concatenation of lists
last =  [4,5,6]
print(first+last)
```

```
     [1, 2, 3, 4, 5, 6]
```

```
li3=[10,20,30,40,50,60,70,80,90] #membership
print(50 in li3)
```

```
True
```

```
li3=[10,20,30,40,50,60,70,80,90] #membership
print(100 in li3)
```

```
False
```

```
li3=[10,20,30,40,50,60,70,80,90] #itreation
for i in li3 :
  print(i)
```

```
10
20
30
40
50
60
70
80
90
```

```
li3=[10,20,30,40,50,60,70,80,90] #itreation
for i in li3 :
  print(i , end = ' ')
```

```
10 20 30 40 50 60 70 80 90
```

```
print(li3)
```

```
[10, 20, 30, 40, 50, 60, 70, 80, 90]
```

```
li3.append(100) #add at the end
```

```
print(li3)
```

```
[10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
```

```
li3.pop(5) #remove at index
```

```
60
```

```
li3
```

```
[10, 20, 30, 40, 50, 70, 80, 90, 100]
```

```
li3.remove(50) #remove the element
```

```
li3
```

```
     [10, 20, 30, 100, 40, 70, 80, 90, 20]
```

```
li3.insert(3,100)
```

```
li3
```

```
     [10, 20, 30, 100, 40, 70, 80, 90]
```

```
li3.append(20)
```

```
print(li3)
```

```
     [10, 20, 30, 100, 40, 70, 80, 90, 20]
```

```
print(li3.count(20))
```

```
     2
```

```
print(li3.index(100))
```

```
     3
```

```
#tuple
t = (1,2,"hello",10.45)
```

```
print(t)
```

```
     (1, 2, 'hello', 10.45)
```

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

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

```
#tuple is immutable
```

```
li3 #mutable
```

```
     [10, 20, 30, 100, 40, 70, 80, 90, 20]
```

```
li3[0] = 100
```

```
li3
```

```
     [100, 20, 30, 100, 40, 70, 80, 90, 20]
```

```
tup = (1,2,3,[4,5,6])
```

```
tup
```

```
     (1, 2, 3, [4, 5, 6])
```

```
tup[3][1]=10
```

```
tup
```

```
     (1, 2, 3, [4, 10, 6])
```

```
li5 = [1] #list with 1 element
```

```
li5
```

```
     [1]
```

```
print(type(li5))
```

```
     <class 'list'>
```

```
tup1=(1)
```

```
print(type(tup1))
```

```
     <class 'int'>
```

```
tup1=(10,)
```

```
print(type(tup1))
```

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

```
#set
```

```
num = {1,2,3,4}
```

```
print(type(num))
```

```
     <class 'set'>
```

```
list1=[5,3,2,5,4,1]
print(list1)
```

```
     [5, 3, 2, 5, 4, 1]
```

```
set1={5,3,2,5,4,1}
print(set1)
```

```
{1, 2, 3, 4, 5}
```

```
num1 = {1,2,4,6}
num2 = {4,6,8,9}
print(num1 | num2) #union
```

```
{1, 2, 4, 6, 8, 9}
```

```
num1 = {1,2,4,6}
num2 = {4,6,8,9}
print(num1 - num2)
```

```
{1, 2}
```

```
num1 = {1,2,4,6}
num2 = {4,6,8,9}
print(num1 & num2)
```

```
{4, 6}
```

```
#dictionary
```

```
dict1 = {"name":"reddy","age":25,"college" :"NIPER","percentage":72.9}
print(dict1)
```

```
{'name': 'reddy', 'age': 25, 'college': 'NIPER', 'percentage': 72.9}
```

```
print(dict1["age"])
```

```
25
```

```
print(dict1["name"])
```

```
reddy
```

```
print(type(dict1))
```

```
<class 'dict'>
```

```
print(dict1.get("age"))
```

```
25
```

```
print(dict1.get("place"))
```

```
None
```

```
print(dict1.get("place",0))
```

```
0
```

```
print(dict1.keys())
```

```
dict_keys(['name', 'age', 'college', 'percentage'])
```

```
print(dict1.items())
```

```
dict_items([('name', 'reddy'), ('age', 25), ('college', 'NIPER'), ('percentage', 72.9
```

```
#modules
#generating OTP
```

```
import math as m
```

```
from math import sqrt
```

```
print(sqrt(64))
```

```
8.0
```

```
print(m.sqrt(64))
```

```
8.0
```

```
print(m.pow(2,10))
```

```
1024.0
```

```
import random as r #random numbers
```

```
from random import randint
```

```
print(r.randint(0,20))
```

```
2
```

```
print(r.randrange(0,10))
```

```
5
```

```
print(r.random())
```

```
0.2647663243908157
```

```
print(r.random() * 50)
```

```
12.745703603365849
```