

1)

```
t3=('a', 'b', 'c', 'd', 'e')
t3=('a','B','c','d','e')
t3 = ('A',) + t3 [1:]
print (t3)

('A', 'B', 'c', 'd', 'e')
```

2)

```
t1 = ('p','y','t','h','o','n','p','r','o','g','r','a','m')
print(t1.count('p'))
print (t1.index('y'))
print (t1.index('h'))

2
1
3
```

Dictionary

3)

```
# dictionary with integer keys
my_dict = {1:'apple', 2: 'ball'}
print(my_dict)
print(my_dict[2])
```

```
☞ {1: 'apple', 2: 'ball'}
   ball
```

4)

```
# dictionary with mixed keys
my_dict = {'name': 'John', 1: [2, 4, 3]}
print(my_dict)
print(my_dict['name'])
print(my_dict[1])
```

```
{'name': 'John', 1: [2, 4, 3]}
John
[2, 4, 3]
```

5)

```
my_dic = {(1,2,3):"abc", 3.14:"abc"}
print(my_dic)

{(1, 2, 3): 'abc', 3.14: 'abc'}
```

6)

```
# using dict()
my_dict = dict({1:'apple', 2:'ball'})
print(my_dict)

{1: 'apple', 2: 'ball'}
```

7)

```
my_dict={'name':'Ram','age':21}
print(my_dict) # display all items
print(my_dict.get('name')) # Retrieves the value of name
my_dict['age']=23 # update value
print(my_dict)
my_dict['dept']='CSE' # add
print(my_dict)

{'name': 'Ram', 'age': 21}
Ram
{'name': 'Ram', 'age': 23}
{'name': 'Ram', 'age': 23, 'dept': 'CSE'}
```

8)

```
squares={1:1,2:4,3:9,4:16,5:25}
print(squares.pop(3)) # remove a particular
print(squares)
print(squares.popitem()) # remove an arbitrary
print(squares)
del squares[4] # delete a particular
squares.clear() # remove all
print(squares)

9
{1: 1, 2: 4, 4: 16, 5: 25}
(5, 25)
{1: 1, 2: 4, 4: 16}
{}
```

9) Sorting a Dictionary

```
marks={}.fromkeys(['Math','English','Science'],0)
print(marks)
```

```
for item in marks.items():  
    print(item)  
print(list(sorted(marks.keys())))  
  
{'Math': 0, 'English': 0, 'Science': 0}  
( 'Math', 0)  
( 'English', 0)  
( 'Science', 0)  
[ 'English', 'Math', 'Science']
```

10) Iterating Through a Dictionary

```
squares={1:1,2:4,3:9,4:16,5:25}  
for i in squares:  
    print(squares[i])
```

```
1  
4  
9  
16  
25
```

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