In [1]:
```python
#1
t3=('a','b','c','d','e')
t3=[1,'b']
t3=['a',]+t3[1:]
print(t3)
```

```
['a', 'b']
```

In [2]:
```python
#2
t1=('p','y','t','h','o','n','p','r','o','g','r','a','m')
#count
print(t1.count('p'))
#Index
print(t1.index('y'))
print(t1.index('h'))
```

```
2
1
3
```

In [3]:
```python
#3DICTIONARY
#dictionary with integer keys
my_dict={1:'apple',2:'ball'}
print (my_dict)
print (my_dict[2])
```

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

In [4]:
```python
#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]
```

In [5]:
```python
#5
my_dict={(1,2,3):"abc",3.14:"abc"}
print(my_dict)
```

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

In [6]:
```python
#6
#using dict()
my_dict=dict({1:'apple',2:'ball'})
print(my_dict)
```

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

In [7]:
```python
#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'}
```

```python
#8
```

In [8]:
```python
squares={1:1,2:4,3:9,4:16,5:25}
print(squares.pop(3))#remove a particular
print(squares.popitem())#remove an arbitrary
print(squares)
del squares[4]#delete a particular
squares.clear()#remove all
print(squares)
```

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

In [9]:
```python
#9
#sorting a dictionary
marks={}.fromkeys(['Math','English','Science',0])
print(marks)
for item in marks.items():
    print(item)
print ('sorted',(marks.keys()))
```

```
{'Math': None, 'English': None, 'Science': None, 0: None}
('Math', None)
('English', None)
('Science', None)
(0, None)
sorted dict_keys(['Math', 'English', 'Science', 0])
```

In [10]:
```python
#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
```

In [ ]: