In [3]:
```
# Dictionary
d1={}
print(d1)
print(type(d1))
```

```
{}
<class 'dict'>
```

In [4]:
```
d2={"Division A" : 60,"Division B" : 70,"Division C" : 80}
d2
```

Out[4]:
```
{'Division A': 60, 'Division B': 70, 'Division C': 80}
```

In [6]:
```
d2["Division D"]=90
d2
```

Out[6]:
```
{'Division A': 60, 'Division B': 70, 'Division C': 80, 'Division D': 90}
```

In [7]:
```
d2["Division A"]=65
d2
```

Out[7]:
```
{'Division A': 65, 'Division B': 70, 'Division C': 80, 'Division D': 90}
```

In [8]:
```
d2["Division A"]
```

Out[8]:
```
65
```

In [9]:
```
"Division B" in d1
```

Out[9]:
```
False
```

In [11]:
```
d2["Division B"]
```

Out[11]:
```
70
```

In [12]:
```
"Division E" in d2 and d2["Division E"]
```

Out[12]:
```
False
```

In [15]:
```
d2.get("Division A")
```

Out[15]:
```
65
```

In [17]:
```
d2.get("Division E",0)
```

Out[17]:
```
0
```

In [45]:
```

shoppinglist=[("Shirt",6),("Kurtis",20),("Purces",3)]
sdict=dict(shoppinglist)
sdict
```

Out[45]:
```
{'Shirt': 6, 'Kurtis': 20, 'Purces': 3}
```

In [46]:
```

items=sdict.keys()
print(type(items))
print(items)
```

```
<class 'dict_keys'>
dict_keys(['Shirt', 'Kurtis', 'Purces'])
```

In [47]:
```
l=sdict.values()
print(l)
print(type(l))
```

```
dict_values([6, 20, 3])
<class 'dict_values'>
```

In [48]:
```
sdict.items()
```

Out[48]:
```
dict_items([('Shirt', 6), ('Kurtis', 20), ('Purces', 3)])
```

In [49]:
```

val=sdict.pop('Purces')
print(sdict)
print(val)
```

```
{'Shirt': 6, 'Kurtis': 20}
3
```

In [50]:
```
t=sdict.popitem()
print(sdict)
print(t)
```

```
{'Shirt': 6}
('Kurtis', 20)
```

In [52]:
```
del(sdict['Shirt'])
print(sdict)
```

```
{}
```

In [53]:
```
# iterating through Dictionary
d2
```

Out[53]:
```
{'Division A': 65, 'Division B': 70, 'Division C': 80, 'Division D': 90}
```

In [58]:
```
for k in d2:
    print(k,"=",d2[k])
print("_____________________")
for k in d2.keys():
    print(k,"=",d2[k])
```

```
Division A = 65
Division B = 70
Division C = 80
Division D = 90
_____________________
Division A = 65
Division B = 70
Division C = 80
Division D = 90
```

In [55]:
```
for k,v in d2.items():
    print(k,"=",v)
```

```
Division A = 65
Division B = 70
Division C = 80
Division D = 90
```

In [ ]:
```
# Assignment
```

In [1]:
```
# 1.Write a Python program to combine two dictionary adding values for common keys. Go to the editor
# d1 = {'a': 100, 'b': 200, 'c':300)
# d2 = {'a': 300, 'b': 200, 'd':400)
# Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})
from collections import Counter
d1 = {'a': 100, 'b': 200, 'c':300}
d2 = {'a': 300, 'b': 200, 'd':400}
d = Counter(d1) + Counter(d2)
print(d)
```

```
Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})
```

In [3]:
```
# 2.Write a Python program to print all unique values in a dictionary.
# Original List:  [{'V': 'S001'}, {'V': 'S002'}, {'VI': 'S001'}, {'VI': 'S005'}, {'VII': 'S005'}, {'V': 'S009'},
# {'VIII': 'S007'}]
# Unique Values:  {'S009', 'S002', 'S007', 'S005', 'S001'}
l1 = [{"V":"S001"}, {"V": "S002"}, {"VI": "S001"}, {"VI": "S005"}, {"VII":"S005"}, {"V":"S009"},{"VIII":"S007"}]
print("Original List: ",l1)
uv = set( i for dic in L for i in dic.values())
print("Unique Values: ",uv)
```

```
Original List:  [{'V': 'S001'}, {'V': 'S002'}, {'VI': 'S001'}, {'VI': 'S005'}, {'VII': 'S005'}, {'V': 'S009'}, {'VIII': 'S007'}]
Unique Values:  {'S009', 'S005', 'S001', 'S002', 'S007'}
```

In [9]:
```
# 3.Write a Python program to create a dictionary from a string.
# Track the count of the letters from the string.
# Sample string : 'w3resource'
# Expected output: {'3': 1, 's': 1, 'r': 2, 'u': 1, 'w': 1, 'c': 1, 'e': 2, 'o': 1}
st1 = 'w3resource'
dic = {}
for i in st1 :
    dic [i] = st1.count(i)
print("Count the letters from the string :-",dic)
```

```
Dictionary :- {'w': 1, '3': 1, 'r': 2, 'e': 2, 's': 1, 'o': 1, 'u': 1, 'c': 1}
```

In [10]:
```
# 4.Merge following two Python dictionaries into one.
# Get the key corresponding to the minimum value from the following dictionary
# sampleDict = {  'Physics': 82,  'Math': 65,  'history': 75}
# Expected output:  Math
sampleDict = {  'Physics': 82,  'Math': 65,  'history': 75}
print(min(sampleDict,key=sampleDict.get))
```

```
Math
```

In [11]:
```
# 5.Combine two dictionary adding values for common keys
# Input: dict1 = {'a': 12, 'for': 25, 'c': 9}
# dict2 = {'python': 100, 'java': 200, 'for': 300}
# Output: {'for': 325, 'python': 100, 'java': 200}
dict1 = {'a': 12, 'for': 25, 'c': 9}
dict2 = {'python': 100, 'java': 200, 'for': 300}
for key in dict2:
    if key in dict1:
        dict2[key] = dict2[key] + dict1[key]
    else:
        pass

print(dict2)
```

```
{'python': 100, 'java': 200, 'for': 325}
```

In [18]:
```
# 6.dict1={101:{"Apple" :10, "Mango" :5 },
#          102 :{"Apple" :15, "Mango" :8, "Cherry" :5 },
#          103: {"Apple" :10} }
# Output : Dict2= {" Apple" :35, "Mango" :13, "Cherry" :5 }
dict1={101:{"Apple" :10, "Mango" :5 },
          102 :{"Apple" :15, "Mango" :8, "Cherry" :5 },
          103: {"Apple" :10} }
result={}
for k in dict1:
    for k1 in dict1[k].keys():
        if k1 in result:
            result[k1]+=dict1[k][k1]
        else:
            result[k1]=dict1[k][k1]
print("Dict2 =",result)
```

```
Dict2 = {'Apple': 35, 'Mango': 13, 'Cherry': 5}
```

In [27]:
```
# 7.Have dictionary with roll as key and marks obtained as value, show key with highest marks
n=int(int(input("Enter number of student : ")))
d={}
for i in range(n):
    roll_no=int(input("Enter roll no: "))
    name=input("Enter name: ")
    marks=int(input("Enter marks: "))
    d[roll_no]=[name,marks]
for k in d:
    if(d[k][1]>75):
        print("Highest Marks :",d[k][0])
```

```
Enter number of student : 2
Enter roll no: 101
Enter name: asdff
Enter marks: 68
Enter roll no: 102
Enter name: dghjj
Enter marks: 78
Highest Marks : dghjj
```

In [ ]:
```

```