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Python Programming - 2101CS405

Lab - 6

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Tuples, dictionary, set

A

01) WAP to sort python dictionary by key or value.

In [ ]:
```
myDict =  {}
key = ""
value = 0

while(True):
    key = input("Enter a key for dictionary or 'q' to exit : ")
    if(key.lower() == "q"):
        break
    value = input("Enter a value for the key : ")
    myDict[key] = value

myKeys = list(myDict.keys())
print(f"my keys : {myKeys}")
myKeys.sort()
print(f"my Dict : {myDict}")
sortedDict = {i: myDict[i] for i in myKeys}
print(f"sorted Dict by keys : {sortedDict}")

myKeys = list(myDict.keys())
value = list(myDict.values())
helper = list(myDict.values())
helper.sort()

sortedDict2 = {}
for i in helper:
    myindex = value.index(i)

    sortedDict2[myKeys[myindex]]= i
print(f"sorted by value : {sortedDict2}")
```

```
my keys : ['x', 'a', 'z', 'b', 'y']
my Dict : {'x': 3, 'a': 5, 'z': 1, 'b': 4, 'y': 2}
sorted Dict by keys : {'a': 5, 'b': 4, 'x': 3, 'y': 2, 'z': 1}
helper = [1, 2, 3, 4, 5] : value = [3, 5, 1, 4, 2]
sorted by value : {'z': 1, 'y': 2, 'x': 3, 'b': 4, 'a': 5}
```

02) WAP to merge two dictionaries given by user.

In [ ]:
```
myDict = {}
myDict2 = {}
while(True):
    key = input("Enter a key for dictionary or 'q' to exit : ")
    if(key.lower() == "q"):
        break
    value = input("Enter a value for the key : ")
    myDict[key] = value

print("::::: second dictionary ::::::")
while(True):
    key = input("Enter a key for dictionary or 'q' to exit : ")
    if(key.lower() == "q"):
        break
    value = input("Enter a value for the key : ")
    myDict2[key] = value

print(f"myDict  = {myDict} , myDict2 = {myDict2}")
myDict.update(myDict2)
print(f"updated dict = {myDict}")
```

```
Enter a key for dictionary or 'q' to exit : 1
Enter a value for the key : a
Enter a key for dictionary or 'q' to exit : 2
Enter a value for the key : b
Enter a key for dictionary or 'q' to exit : 3
Enter a value for the key : c
Enter a key for dictionary or 'q' to exit : q
::::: second dictionary ::::::
Enter a key for dictionary or 'q' to exit : 4
Enter a value for the key : d
Enter a key for dictionary or 'q' to exit : 5
Enter a value for the key : e
Enter a key for dictionary or 'q' to exit : 6
Enter a value for the key : f
Enter a key for dictionary or 'q' to exit : q
myDict  = {'1': 'a', '2': 'b', '3': 'c'} , myDict2 = {'4': 'd', '5': 'e',
'6': 'f'}
updated dict = {'1': 'a', '2': 'b', '3': 'c', '4': 'd', '5': 'e', '6': 'f'}
```

03) WAP to find tuples that have all elements divisible by K from a list of tuples.

In [ ]:
```
mylist = [(1, 2, 3), (4, 5, 6), (7, 8, 9), (3, 6), (9, 12)]
k = int(input("Enter a number"))
res  = list(filter(lambda sub:all(ele%k ==0 for ele in sub),mylist))
print(f"res = {res}")
```

```
Enter a number3
res = [(3, 6), (9, 12)]
```

04) WAP to find Tuples with positive elements in List of tuples.

In [ ]:
```
mylist =[(1, 2, 3), (4, 5, 6), (7, 8, 9), (0, -1, -2), (-4, -5, -6), (4, -5, 6

res  = list(filter(lambda sub:all(ele >=0 for ele in sub),mylist))
print(f"res = {res}")
```

```
res = [(1, 2, 3), (4, 5, 6), (7, 8, 9)]
```

05) WAP which perform union of two sets.

In [ ]:
```
set1 = {1, 2, 3, 4, 5}
set2 = {3, 4, 5, 6, 7}

set1 = set1.union(set2)
print(set1)
```

```
{1, 2, 3, 4, 5, 6, 7}
```

B

01) WAP to convert binary tuple into integer.

In [ ]:
```
import functools as ft
mytuple = (1, 0 ,1,0,1)
mypower = 0
mylist = []
for i in mytuple:
    mylist.append((2**mypower)*i)
    mypower +=1
res = ft.reduce(lambda a,b:a+b,mylist)
print(res)
```

```
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```

02) WAP to count frequency in list by dictionary.

In [ ]:
```
mylist = [1,2,3,4,5,6,7,8,9,0,0,9,8,7,6,5,4,3,2,1]
freq={}
for i in mylist:
    if(i in freq):
        freq[i] +=1
    else:
        freq[i]=1
print(freq)
```

```
{1: 2, 2: 2, 3: 2, 4: 2, 5: 2, 6: 2, 7: 2, 8: 2, 9: 2, 0: 2}
```

03) WAP to remove all the duplicate words from the list using dictionary.

In [ ]:
```
mylist = ['red','blue','yellow','violet','red','blue','yellow','violet','red',
mylist2=[]
unique={}
for i in mylist:
    if(i in unique):
        unique[i]+=1
    else:
        unique[i]=1
print(unique)
mylist2.extend(unique.keys())
print(mylist2)
```

```
{'red': 3, 'blue': 3, 'yellow': 3, 'violet': 3}
['red', 'blue', 'yellow', 'violet']
```

In [ ]:
```

```