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# Python Programming - 2301CS404

# Lab - 7

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## Set & Dictionary

### 01) WAP to iterate over a set.

In [1]:
```
set1 = {1,2,3,4,5}
for i in set1:
    print(i)
```

```
1
2
3
4
5
```

### 02) WAP to convert set into list, string and tuple.

In [12]:
```
set1 = {1,2,3,4,5,6,7,8,9}
l = list(set1)
s = ''.join([str(i) for i in l])
t = tuple(set1)

print(type(l)," : ",l)
print(type(s)," : ",s)
print(type(t)," : ",t)
```

```
<class 'list'>  :  [1, 2, 3, 4, 5, 6, 7, 8, 9]
<class 'str'>  :  123456789
<class 'tuple'>  :  (1, 2, 3, 4, 5, 6, 7, 8, 9)
```

### 03) WAP to find Maximum and Minimum from a set.

In [20]:
```
set1 = {1,2,3,15,-12,4,5,6,7,8,9}
# print("max = ",max(set1))
# print("max = ",min(set1))
l = list(set1)
minnum = l[0]
maxnum = l[0]
for i in l:
    if(maxnum < i):
        maxnum = i
    if(minnum > i):
        minnum = i
print("max = ",maxnum)
print("min = ",minnum)
```

```
max =  15
min =  -12
```

## 04) WAP to perform union of two sets.

In [23]:
```
set1 = {1,2,3,4,5}
set2 = {2,4,6,8,10}

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

```
{1, 2, 3, 4, 5, 6, 8, 10}
{1, 2, 3, 4, 5}
```

## 05) WAP to check if two lists have at-least one element common.

In [28]:
```
l1 = [12,3,5,4,5]
l2 = [1,2,3,4]
set1 = set(l1)
set2 = set(l2)
if len(set1.intersection(set2)) >= 1:
    print(set1.intersection(set2))
else:
    print("list have not common elemants")
```

```
{3, 4}
```

## 06) WAP to remove duplicates from list.

In [42]:
```
l = [1,2,3,4,5,3,4,2,6,6,6,6]
l = list(set(l))
print(l)
```

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

## 07) WAP to find unique words in the given string.

In [47]:
```
s = "My Name is Tony Stark Tony Stark "
set1 = set(s.split(" "))
print(set1)
```

```
{'My', 'Stark', '', 'is', 'Name', 'Tony'}
```

## 08) WAP to remove common elements of set A & B from set A.

In [3]:
```
a = {1,2,3,4,5}
b = {2,4,6,8,10}
a.difference_update(b)
print(a)
```

```
{1, 3, 5}
```

## 09) WAP to check whether two given strings are anagram or not using set.

In [63]:
```
s1 = "abcd"
s2 = "dabc"
set1 = set(s1)
set2 = set(s2)
if (len(s1) == len(s2)) and (set1 == (set1 & set2)):
    print(f"{s1} and {s2} is anagram.")
else:
    print(f"{s1} and {s2} is Not anagram.")
```

```
abcd and dabc is anagram.
```

## 10) WAP to find common elements in three lists using set.

In [64]:
```
l1 = [1,3,5,7,9]
l2 = [2,3,5,7]
l3 = [1,2,3,4,5,6,7,8]

set1 = set(l1)
set2 = set(l2)
set3 = set(l3)

print(set1 & set2 & set3)
```

```
{3, 5, 7}
```

## 11) WAP to count number of vowels in given string using set.

In [72]:
```
set1 = {'a','e','i','o','u'}
s = input("Enter the String : ")
count_vowels = 0
for i in s.lower():
    if i in set1:
        count_vowels+=1;
    else:
        pass
print(f"Number of Vowels in {s} : {count_vowels}")
```

```
Number of Vowels in aEiod : 4
```

## 12) WAP to check if a given string is binary string or not.

In [82]:
```
set1 = {'1','0'}
s = input("Enter the String : ")
count_vowels = 0
for i in s:
    if i not in set1:
        print(f"{s} is Not a Binary String.")
        break
else:
    print(f"{s} is a Binary String.")
```

```
fcgv is Not a Binary String.
```

## 13) WAP to sort dictionary by key or value.

In [16]:
```
d = {'d': 1, 'b': 2, 'c': 3, 'a' : 4}
d1 = dict(sorted(d.items()))
print(d1)
d2 = dict(sorted(d.items(), key=lambda item: item[1]))
print(d2)
# l1 = list(d.keys())
# l1.sort()
# for i in l1:
#     print(f"{i} : {d[i]}")
```

```
{'a': 4, 'b': 2, 'c': 3, 'd': 1}
{'d': 1, 'b': 2, 'c': 3, 'a': 4}
```

## 14) WAP to find the sum of all items (values) in a dictionary given by user. (Assume: values are numeric)

In [91]:
```
d = {}
for i in range(1,6):
    n = int(input("Enter the Number"))
    d[i] = n
ans = 0
for i in d.keys():
    ans += d[i]
print("ans = ",ans)
```

```
ans =  270
```

## 15) WAP to handle missing keys in dictionaries.

### Example : Given, dict1 = {'a': 5, 'c': 8, 'e': 2}

### if you look for key = 'd', the message given should be 'Key Not Found', otherwise print the value of 'd' in dict1.

In [19]:
```
dict1 = {'a': 5, 'c': 8, 'e': 2}
key = input("Enter the Key : ")
if key in dict1.keys():
    print(f"{key} : {dict1[key]}")
else:
    print("Key Not Found")
```

```
c : 8
```

In [ ]: