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Python Programming - 2301CS404

Lab - 7

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Set & Dictionary

01) WAP to iterate over a set.

In [3]:
```
user_input = input("Enter elements separated by comma : ")
user_set={int(i) for i in user_input.split(',')}

for i in user_set:
    print(i)
```

```
1
2
3
4
5
```

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

In [5]:
```
user_input = input("Enter elements separated by comma : ")
user_set={int(i) for i in user_input.split(',')}

print(f'List : {list(user_set)}')
print(f'String : {str(user_set)}')
print(f'Tuple : {tuple(user_set)}')
```

```
List : [1, 2, 3, 4, 5]
String : {1, 2, 3, 4, 5}
Tuple : (1, 2, 3, 4, 5)
```

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

In [9]:
```
user_input = input("Enter elements separated by comma : ")
user_set={int(i) for i in user_input.split(',')}

print("Max = ",max(user_set))
print("Min = ",min(user_set))
```

```
Max =  5
Min =  1
```

04) WAP to perform union of two sets.

In [11]:
```
user_input1 = input("Enter elements separated by comma : ")
user_set1={int(i) for i in user_input1.split(',')}

user_input2 = input("Enter elements separated by comma : ")
user_set2={int(i) for i in user_input2.split(',')}

print(user_set1.union(user_set2))
```

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

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

In [19]:
```
user_input1 = input("Enter elements separated by comma : ")
user_list1=[int(i) for i in user_input1.split(',')]

user_input2 = input("Enter elements separated by comma : ")
user_list2={int(i) for i in user_input2.split(',')}

set1=set(user_list1)
set2=set(user_list2)

common_elements = set1.intersection(set2)

if len(common_elements)>0:
    print("YES , The lists have at least one element in common.")
else:
    print("NO , The lists do not have any elements in common.")
```

```
YES , The lists have at least one element in common.
```

06) WAP to remove duplicates from list.

In [21]:
```
user_input1 = input("Enter elements separated by comma : ")
user_list1=[int(i) for i in user_input1.split(',')]

ans=set(user_list1)
print(list(ans))
```

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

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

In [27]:
```
input_string = input("Enter String : ")

words = input_string.lower().split(' ')

unique_words = set(words)

print("Unique words in the given string:")
for word in unique_words:
    print(word)
```

```
Unique words in the given string:
bhalodi
jeet
```

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

In [29]:
```
user_input1 = input("Enter elements separated by comma : ")
a={int(i) for i in user_input1.split(',')}

user_input2 = input("Enter elements separated by comma : ")
b={int(i) for i in user_input2.split(',')}

ans = a - a.intersection(b)
print(ans)
```

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

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

In [31]:
```
a = input("Enter String : ")
b = input("Enter String : ")

s1=a.replace(" ","").lower()
s2=b.replace(" ","").lower()

if(sorted(s1)==sorted(s2)):
    print(f"'{s1}' and '{s2}' are anagrams.")
else:
    print(f"'{s1}' and '{s2}' are not anagrams.")
```

```
'jeet' and 'heet' are not anagrams.
```

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

In [33]:
```
user_input1 = input("Enter elements separated by comma : ")
user_list1=[int(i) for i in user_input1.split(',')]

user_input2 = input("Enter elements separated by comma : ")
user_list2={int(i) for i in user_input2.split(',')}
```

```
user_input3 = input("Enter elements separated by comma : ")
user_list3=[int(i) for i in user_input3.split(',')]

s1=set(user_list1)
s2=set(user_list2)
s3=set(user_list3)

print(f'Common elements in three lists are : {s1.intersection(s2,s3)}')
```

```
Common elements in three lists are : {4, 5}
```

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

In [35]:
```
a = input("Enter String : ")

str1=a.lower()

vowels = {'a','e','i','o','u'}
count=0

for i in str1:
    if i in vowels:
        count+=1

print(count)
```

```
5
```

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

In [37]:
```
input_string = input("Enter a string: ")

binary = {'0', '1'}

input_set = set(input_string)

if input_set.issubset(binary):
    print(f"'{input_string}' is a binary string.")
else:
    print(f"'{input_string}' is not a binary string.")
```

```
'1010101' is a binary string.
```

13) WAP to sort dictionary by key or value.

In [41]:
```
input_dict = {}

n = int(input("Enter the number of key-value pairs: "))

for _ in range(n):
    key = input("Enter key: ")
    value = (input("Enter value: "))
    input_dict[key] = value
```

```
sorted_by_keys = dict(sorted(input_dict.items()))
print("Dictionary sorted by keys:", sorted_by_keys)

sorted_by_values = dict(sorted(input_dict.items(), key=lambda item: item[1], revers

print("Dictionary sorted by values:", sorted_by_values)
```

```
Dictionary sorted by keys: {'1': '5', '2': '4', '3': '3', '4': '2', '5': '1'}
Dictionary sorted by values: {'5': '1', '4': '2', '3': '3', '2': '4', '1': '5'}
```

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

In [43]:
```
input_dict = {}
n = int(input("Enter the number of key-value pairs: "))
for _ in range(n):
    key = input("Enter key: ")
    value = int(input("Enter value: "))
    input_dict[key] = value

total_sum = sum(input_dict.values())

print(f'Sum : {total_sum}')
```

```
Sum : 30
```

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 [45]:
```
input_dict = {}
n = int(input("Enter the number of key-value pairs: "))
for _ in range(n):
    key = input("Enter key: ")
    value = int(input("Enter value: "))
    input_dict[key] = value

key = input("Enter the key to look up: ")

if key in input_dict:
    print(f'{key} is in the input dictionary')
else:
    print(f'{key} key is not found')
```

```
d key is not found
```