

python-programming-lab-7

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Python Programming - 2301CS404

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Lab - 7

1 Set & Dictionary

1.0.1 01) WAP to iterate over a set.

```
[1]: s1 = set()
n = int(input("Enter number of Element "))
for i in range(n):
    x = int(input("Enter number "))
    s1.add(x)
print(s1)
s2 = {i**2 for i in s1}
print(s2)
```

Enter number of Element 3

Enter number 1

Enter number 2

Enter number 3

{1, 2, 3}

{1, 4, 9}

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

```
[2]: s1 = set()
n = int(input("Enter number of Element "))
for i in range(n):
    x = int(input("Enter number "))
    s1.add(x)
print(s1)
```

```

l1 = list(s1)
print(l1)
print(type(l1))

t1 = tuple(s1)
print(t1)
print(type(t1))

str1 = str(s1)
print(str1)
print(type(str1))

```

```

Enter number of Element  5
Enter number  1
Enter number  2
Enter number  34
Enter number  5
Enter number  6

{1, 2, 34, 5, 6}
[1, 2, 34, 5, 6]
<class 'list'>
(1, 2, 34, 5, 6)
<class 'tuple'>
{1, 2, 34, 5, 6}
<class 'str'>

```

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

```

[3]: s1 = set()
n = int(input("Enter number of Element "))
for i in range(n):
    x = int(input("Enter number "))
    s1.add(x)
print(s1)
maximum = 0
for i in s1:
    if(i>maximum):
        maximum = i
print('Maximum element is ',maximum)
minimum = maximum
for i in s1:
    if(i < minimum):
        minimum = i
print('Minimum element is ',minimum)

```

```

Enter number of Element  5

```

```
Enter number 1
Enter number 2
Enter number 3
Enter number 4
Enter number 6

{1, 2, 3, 4, 6}
Maximum element is 6
Minimum element is 1
```

1.0.4 04) WAP to perform union of two sets.

```
[4]: s1 = set()
n1 = int(input("Enter number of Element "))
for i in range(n1):
    x1 = int(input("Enter number "))
    s1.add(x1)
print(s1)

s2 = set()
n2 = int(input("Enter number of Element "))
for i in range(n2):
    x2 = int(input("Enter number "))
    s2.add(x2)
print(s2)

print('Union of two set is ',s1.union(s2))
```

```
Enter number of Element 1
Enter number 1

{1}

Enter number of Element 2
Enter number 1
Enter number 2

{1, 2}
Union of two set is {1, 2}
```

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

```
[5]: s1 = set()
n1 = int(input("Enter number of Element "))
for i in range(n1):
    x1 = int(input("Enter number "))
    s1.add(x1)
print(s1)
```

```

s2 = set()
n2 = int(input("Enter number of Element "))
for i in range(n2):
    x2 = int(input("Enter number "))
    s2.add(x2)
print(s2)

print('Intersection of two set is ',s1.intersection(s2))

```

```

Enter number of Element  5
Enter number  1
Enter number  4
Enter number  5
Enter number  6
Enter number  4

{1, 4, 5, 6}

Enter number of Element  5
Enter number  4
Enter number  7
Enter number  8
Enter number  9
Enter number  6

{4, 6, 7, 8, 9}
Intersection of two set is  {4, 6}

```

1.0.6 06) WAP to remove duplicates from list.

```

[6]: l1 = []
n1 = int(input("Enter number of Element "))
for i in range(n1):
    x1 = int(input("Enter number "))
    l1.append(x1)
print(l1)

s1 = set(l1)
print(s1)

```

```

Enter number of Element  2
Enter number  1
Enter number  1

[1, 1]
{1}

```

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

```
[8]: str1 = input("Enter a String ")

words = str1.split()

ans = []

for word in words:
    if word not in ans:
        ans.append(word)
print(ans)
```

Enter a String neel neel neel

['neel']

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

```
[9]: s1 = set()
n1 = int(input("Enter number of Element "))
for i in range(n1):
    x1 = int(input("Enter number "))
    s1.add(x1)
print(s1)

s2 = set()
n2 = int(input("Enter number of Element "))
for i in range(n2):
    x2 = int(input("Enter number "))
    s2.add(x2)
print(s2)

s3 = s1.intersection(s2)
print(s3)

ans = s1.difference(s3)
print(ans)
```

Enter number of Element 5

Enter number 1

Enter number 2

Enter number 3

Enter number 4

Enter number 5

{1, 2, 3, 4, 5}

Enter number of Element 5

Enter number 5
Enter number 4
Enter number 16
Enter number 9
Enter number 5

{16, 9, 4, 5}
{4, 5}
{1, 2, 3}

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

```
[11]: # s1 = input("Enter a String ")
# s2 = input("Enter a String ")

# if set(s1) == set(s2) and len(s1) == len(s2):
#     print("Anagram")
# else:
#     print("not anagram")

str1 = input("Enter a String ")
str2 = input("Enter a String ")

if len(str1) != len(str2):
    print("Not Anagram")
else:
    dict1 = {}
    for char in str1:
        dict1[char] = dict1.get(char, 0) + 1

    dict2 = {}
    for char in str2:
        dict2[char] = dict2.get(char, 0) + 1

    if dict1 == dict2:
        print("Anagram")
    else:
        print("Not Anagram")
```

Enter a String neel
Enter a String leen
Anagram

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

```
[12]: s1 = {1,2,3,4,5}
      s2 = {1,2}
      s3 = {4,1}

      print(s1.intersection(s2,s3))
```

{1}

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

```
[13]: str1 = input("Enter a String ")
      count = 0
      for i in str1:
          if i in set('aeiouAEIOU'):
              count+=1
      print('Number of vowel is' , count)
```

Enter a String neel

Number of vowel is 2

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

```
[14]: str1 = input("Enter a String ")
      length = len(str1)
      count = 0

      for i in str1:
          if i in set('01'):
              count+=1
      if count == length:
          print("yes",str1, "is binary string")
      else:
          print("No",str1, "is not binary string")
```

Enter a String 0110

yes 0110 is binary string

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

```
[15]: d1 = {5 : 'neel' , 3 : 'shubham'}
      sort = {i : d1[i] for i in sorted(d1)}
      print(sort)
```

{3: 'shubham', 5: 'neel'}

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

```
[16]: d1 = dict()
sum = 0
for i in range(5):
    temp = int(input("Enter number "))
    d1[i] = temp
print(d1)

l1 = d1.values()
for i in l1:
    sum += i
print(sum)
```

```
Enter number 2
Enter number 3
Enter number 4
Enter number 5
Enter number 6
```

```
{0: 2, 1: 3, 2: 4, 3: 5, 4: 6}
20
```

1.0.15 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.

```
[18]: dict1 = {'a': 5, 'c': 8, 'e': 2}
key = input("Enter key ")

if key in dict1:
    print(dict1[key])
else:
    print("Key Not Found")
```

```
Enter key a
```

```
5
```