

Python Assignment-3

1.write a program to find common element from the given array using set.

Program:

```
def Intersection(A, B, C):  
    s1 = set(A)  
    s2 = set(B)  
    s3 = set(C)  
    set1 = s1.intersection(s2)  
    output_set = set1.intersection(s3)  
    output_list = list(output_set)  
    print(output_list)  
  
if __name__ == '__main__':  
    A=list()  
    n=int(input("Enter the size of the List :"))  
    print("Enter the number ")  
    for i in range(int(n)):  
        p=input()
```

```
A.append(p)  
print (A)
```

```
B=list()  
n1=int(input("Enter the size of the List: "))  
print("Enter the number ")  
for i in range(int(n1)):  
    p=input()  
    B.append(p)  
print (B)
```

```
C=list()  
n2=int(input("Enter the size of the List:"))  
print("Enter the number ")  
for i in range(int(n2)):  
    p=input()  
    C.append(p)  
print (C)
```

```
print("Common element from of given array")
```

```
Intersection(A, B, C)
```

Input/Output:

```
1)%Run python_1.py
```

Enter the size of the List :3

Enter the number

a

b

c

```
['a', 'b', 'c']
```

Enter the size of the List: 3

Enter the number

c

b

d

['c', 'b', 'd']

Enter the size of the List:5

Enter the number

x

h

b

c

e

['x', 'h', 'b', 'c', 'e']

Common element from of given array

['b', 'c']

2)%Run python_1.py

Enter the size of the List3

Enter the number

1

2

3

['1', '2', '3']

Enter the size of the List4

Enter the number

1

2

5

6

['1', '2', '5', '6']

Enter the size of the List5

Enter the number

1

5

4

2

['1', '5', '4', '2', '']

Intersection of given array

['2', '1']

2.Implement program 1 using dictionary.

Program:

```
dict1 = {}
```

```
dict2 = {}
```

```
dict3 = {}
```

```
temp = []
```

```
common = []
```

```
dict1_length = int(input("Enter first dictionary length: "))
```

```
for i in range(dict1_length) :
```

```
    dict1_data = input()
```

```
    if(dict1_data.isdigit()) :
```

```
        dict1.update({i:int(dict1_data)})
```

```
    else :
```

```
        dict1.update({i:dict1_data})
```

```
dict2_length = int(input("Enter second dictionary length: "))
```

```
for i in range(dict2_length) :
```

```
dict2_data = input()
if(dict2_data.isdigit()) :
    dict2.update({i:int(dict2_data)})
else :
    dict2.update({i:dict2_data})
```

```
dict3_length = int(input("Enter third dictionary length: "))
for i in range(dict3_length) :
    dict3_data = input()
    if(dict3_data.isdigit()) :
        dict3.update({i:int(dict3_data)})
    else :
        dict3.update({i:dict3_data})
```

```
for i in dict1.values() :
    if i in dict2.values() :
        temp.append(i)
for j in temp :
    if j in dict3.values() :
```

```
common.append(j)
```

```
print("Input: ")
```

```
print(list(dict1))
```

```
print(list(dict2))
```

```
print(list(dict3))
```

```
print("Output: ")
```

```
print(common)
```

Input/Output:

```
1)%Run python_2.py
```

```
Enter first dictionary length: 3
```

```
a
```

```
b
```

```
c
```


Enter second dictionary length: 3

b

c

d

Enter third dictionary length: 5

x

y

b

c

e

Input:

[0, 1, 2]

[0, 1, 2]

[0, 1, 2, 3, 4]

Output:

['b', 'c']

2)%Run python_2.py

Enter first dictionary length: 5

1

3

4

2

6

Enter second dictionary length: 5

2

4

6

8

9

Enter third dictionary length: 6

3

1

4

6

7

2

Input:

[0, 1, 2, 3, 4]

[0, 1, 2, 3, 4]

[0, 1, 2, 3, 4, 5]

Output:

[4, 2, 6]

3. Consider 'reflection' of an alphabet as explained here. 'reflection' of 'a' is 'z' , reflection of 'b' is 'y',.....and so on . write a program to take a string S and index N as input and print reflection of the character is S starting from index N in the output string using dictionary.

Program:

```
def reflection(string,N):
```

```
original='abcdefghijklmnopqrstuvwxyzABCDEFGHIJK  
LMNOPQRSTUVWXYZ'
```

```
reflective='zyxwvutsrqponmlkjihgfedcbaZYXWVUTS  
RQPONMLKJIHGFEDCBA'
```

```
    dict1 = dict(zip(original,reflective))  
    ch = string[N-1:]  
    re = string[0:N-1]  
    new = ""  
    for i in range(0,len(ch)):  
        new=new + dict1[ch[i]]  
    print(re + new)  
if __name__ == '__main__':  
    print("Enter a string::")  
    string = input()  
    print("Enter a index number you want to start  
reflection::")
```

```
N = int(input())  
reflection(string,N)
```

Input/Output:

1) %Run python_3.py

Enter a string:

aABbCcDd

Enter a index number you want to start reflection::

3

aAYyXxWw

2) %Run python_3.py

Enter a string::

ComPutEr

Enter a index number you want to start reflection::

2

ClnKfgVi

3) %Run python_3.py

Enter a string::

SamPleINPUt

Enter a index number you want to start reflection::

1

HzNKovRMKFg

4. Write a program to perform below operation on two sets.

A. Union

B. Intersection

C. Difference

D. Symmetric difference

Program:

```
A=list()
```

```
B=list()
```

```
n=int(input("Enter the size of the List ::"))
```

```
print("Enter the Element of first list::")
```

```
for i in range(int(n)):
```

```
    k=int(input(""))
```

```
A.append(k)
n1 = int(input("Enter the size of the List ::"))
print("Enter the Element of second list::")
for i in range(int(n1)):
    k=int(input(""))
    B.append(k)
C=set(list(A))
print(C)
D=set(list(B))
print(D)
print("Union :", C|D)
print("Intersection :", C&D)
print("Difference :", C - D)
print("Symmetric difference :", C ^ D)
```

Input/Output:

1)%Run python_4.py

Enter the size of the List ::5

Enter the Element of first list::

1

2

3

4

5

Enter the size of the List ::4

Enter the Element of second list::

4

5

6

7

{1, 2, 3, 4, 5}

{4, 5, 6, 7}

Union : {1, 2, 3, 4, 5, 6, 7}

Intersection : {4, 5}

Difference : {1, 2, 3}

Symmetric difference : {1, 2, 3, 6, 7}