**Name: Affan Shaikh**

**Roll no: COB227**

**Code :**

lst1=input("Enter elements(with space): ")

lst1=lst1.split(" ")

print(lst1)

def insert(lst):

    ele=input("Enter element to be inserted: ")

    lst.append(ele)

    return lst

def delete(lst):

    ele=input("Enter element to be deleted: ")

    if ele in lst:

        lst.remove(ele)

    else:

        print("Element not found !")

    return lst

def present(lst):

    ele=input("Enter element to check: ")

    if ele in lst:

        print("TRUE")

    else:

        print("FALSE")

    return 0

def size(lst):

    print("Number of elements in list:",len(lst))

    return 0

def inter(lst,lst0):

    a=[]

    for i in lst:

        if i in lst0:

            a.append(i)

    return a

def dup(lst):

    newlst=[]

    for i in lst:

        if i not in newlst:

            newlst.append(i)

    return newlst

def union(lst,lst0):

    a=[]

    for i in lst:

        a.append(i)

    for j in lst0:

        a.append(j)

    a=dup(a)

    return a

def diff(lst,lst0):

    a=[]

    for i in lst:

        if i not in lst0:

            a.append(i)

    return a

def subset(lst,lst0):

    s=0

    for i in lst0:

        if i in lst:

            s=1

        else:

            s=0

    if s==1:

        print("set 2 is subset of set 1")

    else:

        print("set 2 is not subset of set 1")

    return 0

flag=1

while flag==1:

    print("""

    1.Insert

    2.Delete

    3.Presence

    4.Number of elements

    5.Set Operations

    6.Exit

    """)

    uip=int(input("Enter Choice: "))

    if uip==1:

        print(insert(lst1))

    elifuip==2:

        print(delete(lst1))

    elifuip==3:

        present(lst1)

    elifuip==4:

        size(lst1)

    elifuip==5:

        tp=1

        lst2=input("Enter elements for set1 (with space): ")

        lst2=lst2.split(" ")

        print(lst2)

        lst3=input("Enter elements for set2 (with space): ")

        lst3=lst3.split(" ")

        print(lst3)

        while tp==1:

            print("""

            1.Intersection

            2.Union

            3.Difference

            4.Subset

            5.Exit

            """)

            usip=int(input("Enter Choice: "))

            if usip==1:

                print(inter(lst2,lst3))

            elifusip==2:

                print(union(lst2,lst3))

            elifusip==3:

                print(diff(lst2,lst3))

            elifusip==4:

                subset(lst2,lst3)

            elifusip==5:

                tp=0

                break

            else:

                print("Enter valid choice !")

    elifuip==6:

        flag=0

        break

    else:

        print("Enter valid choice !")

**Output :**

Enter elements(with space): 1 2 3 f s a

['1', '2', '3', 'f', 's', 'a']

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 1

Enter element to be inserted: dd

['1', '2', '3', 'f', 's', 'a', 'dd']

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 2

Enter element to be deleted: 2

['1', '3', 'f', 's', 'a', 'dd']

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 3

Enter element to check: dd

TRUE

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 4

Number of elements in list: 6

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 5

Enter elements for set1 (with space): 1 2 3

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

Enter elements for set2 (with space): 2 3 4

['2', '3', '4']

1.Intersection

2.Union

3.Difference

4.Subset

5.Exit

Enter Choice: 1

['2', '3']

1.Intersection

2.Union

3.Difference

4.Subset

5.Exit

Enter Choice: 5

1.Insert

2.Delete

3.Presence

4.Number of elements

5.Set Operations

6.Exit

Enter Choice: 6