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''' Name : Niraj More
    Assignment : 2
    Roll No : SA49
'''

set1 = set()
set2 = set()
n = int(input("Enter the no of element in set 1 : "))
print("Enter the elements of set 1 :")
for i in range(n):
    ele = float(input())
    set1.add(i)
print("set 1 : ", set1)

n = int(input("Enter the no of element in set 2 : "))
print("Enter the elements of set 2 :")
for i in range(n):
    ele = float(input())
    set2.add(i)
print("set 2 : ", set2)


flag = True
while (flag):
    print('''Main menu
        1.Add
        2.remove
        3.contain
        4.size
        5.union
        6.intersection
        7.difference
        8.subset''')
    choice = int(input("Enter your choice"))
    if (choice == 1):
        ele = float(input("Enter the element to be added : "))
        print("set before adding element : ", set1)
        set1.add(ele)
        print('new set : ', set1)
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False

    elif (choice == 2):
        ele = float(input(("Enter the element to be deleted : ")))
        print("set before adding element : ", set1)
        set1.remove(ele)
        print('new set : ', set1)
        continueOrNot = input("Do you want ot continue : ")
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        if(continueOrNot == 'no'):
            flag = False


    elif (choice == 3):
        ele = float(input("Enter the element to be checked in set"))
        print(set1)
        if (ele in set1):
            print(ele, " is present")
        else:
            print(ele, " is absent")
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False


    elif (choice == 4):
        print('size of ', set1, ' is ', len(set1))
        print('size of ', set2, ' is ', len(set2))
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False

    elif (choice == 5):
        print("Union of ", set1, " and ", set2, " is : ", set1.union(set2))
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False

    elif (choice == 6):
        print("Intersection of ", set1, " and ",
              set2, " is : ", set1.intersection(set2))
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False

    elif (choice == 7):
        print("Difference of ", set1, " and ",
              set2, " is : ", set1 - set2)
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False

    elif (choice == 8):
        if (set1.issubset(set2)):
            print(set1, " is subset of ", set2)
        else:
            print(set1, " is not subset of ", set2)
    else:
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        print("Wrong choice")
        continueOrNot = input("Do you want ot continue : ")
        if(continueOrNot == 'no'):
            flag = False
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Output :

PS C:\Users\hp\OneDrive\Desktop\DSA> python -u "c:\Users\hp\OneDrive\Desktop\DSA\set.py"

Enter the no of element in set 1 : 6

Enter the elements of set 1 :

1

2

3

4

5

6

set 1 : {0, 1, 2, 3, 4, 5}

Enter the no of element in set 2 : 4

Enter the elements of set 2 :

2

4

6

8

set 2 : {0, 1, 2, 3}

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice1

Enter the element to be added : 100

set before adding element : {0, 1, 2, 3, 4, 5}

new set : {0, 1, 2, 3, 4, 5, 100.0}

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice2

Enter the element to be deleted : 4

set before adding element : {0, 1, 2, 3, 4, 5, 100.0}

new set : {0, 1, 2, 3, 5, 100.0}

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice3

Enter the element to be checked in set89

{0, 1, 2, 3, 5, 100.0}

89.0 is absent

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice4

size of {0, 1, 2, 3, 5, 100.0} is 6

size of {0, 1, 2, 3} is 4

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice5

Union of {0, 1, 2, 3, 5, 100.0} and {0, 1, 2, 3} is : {0, 1, 2, 3, 100.0, 5}

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice6

Intersection of {0, 1, 2, 3, 5, 100.0} and {0, 1, 2, 3} is : {0, 1, 2, 3}

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice7

Difference of {0, 1, 2, 3, 5, 100.0} and {0, 1, 2, 3} is : {100.0, 5}

Do you want ot continue : yes

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choice8

{0, 1, 2, 3, 4, 5} is not subset of {0, 1, 2, 3}

Main menu

1.Add

2.remove

3.contain

4.size

5.union

6.intersection

7.difference

8.subset

Enter your choiceno