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To create ADT that implements the SET concept
""" A=[] n=int(input("Enter the number of students in the set1:")) for i in range(0 , n): ele=int(input("enter roll no of students in the set1-")) A.append(ele) print("list of students in the class is:",A) B=[] for i in range(0, 5): ele=int(input("enter roll no of students in the set2-")) B.append(ele) print("list of students in the class is:",B) set1 = set(A) set2 = set(B)
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print("Enter which operation do you want to perform:")
print("""1]Union  2]Intersection
3]Difference
4]Symmetric Difference
5]Subset
6]Remove
7]Add
8]Size
9]Iterate""")
flag = 1  while
flag==1:
choice = int(input("Enter your choice : "))  if
choice == 1:
print("Union of two sets is:",set1.union(set2))  abc
= input("Do you want to continue : yes/no:")  if
abc == "yes":
flag = 1  else:  break  elif choice == 2:  print("Intersection
of two sets is:",set1.intersection(set2))
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abc = input("Do you want to continue : yes/no:")  if
abc == "yes":
flag = 1  else:
break  elif
choice == 3:
e = input("enter set from which set to subtract:")  if
e == set1:
print("difference of set1 - set2 is:",set1.difference(set2))
else:
print("difference of set2 - set1 is:",set2.difference(set1))
abc = input("Do you want to continue : yes/no:")  if abc
== "yes":
flag = 1  else:
break  elif
choice == 4:
e = input("enter set from which set to subtract:")  if
e == set1:
print("Symmetric difference of set1 & set2 is:",set1.symmetric_difference(set2))
else:
print("symmetric difference of set2 & set1 is:",set2.symmetric_difference(set1))
abc = input("Do you want to continue : yes/no:")
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if abc == "yes":
flag = 1  else:  break
elif choice == 5:  if
set1.issubset(set2):
print("set2 is subset of set1:")  else:
print("set1 is subset of set2:")  abc = input("Do
you want to continue : yes/no:")  if abc == "yes":
flag = 1  else:
break  elif
choice == 6:
e = input("enter set from which set to remove element:")
if e == set1:
f=int(input("enter element which you want to remove:"))
set1.remove(f)  else:
f=int(input("enter element which you want to remove:"))
set2.remove(f)
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abc = input("Do you want to continue : yes/no:")  if
abc == "yes":
flag = 1  else:
break  elif
choice == 7:
e = input("enter set in which you want to add element:")
if e == set1:
f=int(input("enter element which you want to add:"))
set1.add(f)  else:
f=int(input("enter element which you want to add:"))
set2.add(f)  abc = input("Do you want to continue :
yes/no:")  if abc == "yes":
flag = 1  else:
break  elif
choice == 8:
e = input("enter set whose length do you want to find")
if e == set1:  print("size of set1 is",len(set1))  else:
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print("size of set2 is",len(set2))  abc = input("Do
you want to continue : yes/no:")  if abc == "yes":
flag = 1  else:
break  elif
choice == 9:
e = input("enter set from which you want to iterate:")
if e == set1:  for i in range(len(A)):
print("elements of set1 are:",A[i])
else:  for i in range(len(B)):
print("elements of set1 are:",B[i])  abc =
input("Do you want to continue : yes/no:")  if
abc == "yes":
flag = 1
else:  break
```

OUTPUT:

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Enter the number of students in the set1:6
enter roll no of students in the set1-34  enter
roll no of students in the set1-56
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enter roll no of students in the set1-78 enter roll no of students in the set1-67 enter roll no of students in the set1-90 enter roll no of students in the set1-27 list of students in the class is: [34, 56, 78, 67, 90, 27] enter roll no of students in the set2-5 enter roll no of students in the set2-45 enter roll no of students in the set2-35 enter roll no of students in the set2-65 enter roll no of students in the set2-29
list of students in the class is: [5, 45, 35, 65, 29]
Enter which operation do you want to perform:
1]Union
2]Intersection
3]Difference
4]Symmetric Difference
5]Subset
6]Remove
7]Add
8]Size
9]Iterate
Enter your choice : 1
Union of two sets is: {65, 34, 67, 35, 5, 45, 78, 56, 90, 27, 29}
Do you want to continue : yes/no:yes
Enter your choice : 2

Intersection of two sets is: set()
Do you want to continue : yes/no:yes Enter
your choice : 3 enter set from which set to
subtract:1 difference of set2 - set1 is: {65,
35, 5, 45, 29}
Do you want to continue : yes/no:yes
Enter your choice : 4 enter set from
which set to subtract:2
symmetric difference of set2 & set1 is: {65, 67, 5, 78, 90, 27, 29, 34, 35, 45, 56}
Do you want to continue : yes/no:yes
Enter your choice : 5 set1 is subset
of set2:
Do you want to continue : yes/no:yes
Enter your choice : 5