PYTHON LAB – 15

SETS

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QUESTIONS

1. Write a Python program to Get Only unique items from two sets.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {70, 40, 10, 50, 20, 60, 30}
2. Write a Python program to Return a set of elements present in Set A or B, but not both.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {20, 70, 10, 60}
3. Write a Python program to Check if two sets have any elements in common. If yes, display the common elements.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {60, 70, 80, 90, 10}
   Output: {10}
4. Write a Python program to Remove items from set1 that are not common to both set1 and set2.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {40, 50, 30}

1. Write a Python program to Get Only unique items from two sets.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {70, 40, 10, 50, 20, 60, 30}

```
Set1 = {10, 20, 30, 40, 50} #Creating set1
Set2 = {30, 40, 50, 60, 70} #Creating Set2
print("Set1 is ",Set1)
print("Set2 is ",Set2)
Res = Set1.union(Set2) #Doing Union operation on
both sets
print("Unique items are ",Res) #printing result
```

OUTPUT:

Set1 is {50, 20, 40, 10, 30}

Set2 is {50, 70, 40, 60, 30}

Unique items are {70, 40, 10, 50, 20, 60, 30}

2. Write a Python program to Return a set of elements present in Set A or B, but not both.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {20, 70, 10, 60}

```
Set1 = {10, 20, 30, 40, 50}  #Creating set1
Set2 = {30, 40, 50, 60, 70} #Creating Set2
print("Set1 is ",Set1)
print("Set2 is ",Set2)
Res = Set1.symmetric_difference(Set2) #Doing symmetric
difference operation on both sets
print("Set of elements present in Set1 or Set2, but not in
both are ",Res) #printing result
```

OUTPUT:

Set1 is {50, 20, 40, 10, 30}

Set2 is {50, 70, 40, 60, 30}

Set of elements present in Set A or B, but not both are {20, 70, 10, 60}

3. Write a Python program to Check if two sets have any elements in common. If yes, display the common elements.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {60, 70, 80, 90, 10}
   Output: {10}

```
Set1 = {10, 20, 30, 40, 50}  #Creating set1
Set2 = {60, 70, 80, 90, 10} #Creating Set2
print("Set1 is ",Set1)
print("Set2 is ",Set2)
Common = Set1.intersection(Set2) #Doing intersection
operation on both sets
if Common: #checking if there is common elements
  print("There are common elements in both sets")
  print("The common elements are ",Common)
else:
  print("There is no common elements")
```

OUTPUT:

CASE 1:

Set1 is {50, 20, 40, 10, 30}

Set2 is {80, 90, 70, 10, 60}

There are common elements in both sets

The common elements are {10}

CASE 2:

Set1 is {50, 20, 40, 10, 30}

Set2 is {1, 2, 3, 4, 55}

There is no common elements

4. Write a Python program to Remove items from set1 that are not common to both set1 and set2.
   Input:
   set1 = {10, 20, 30, 40, 50}
   set2 = {30, 40, 50, 60, 70}
   Output: {40, 50, 30}

```
Set1 = {10, 20, 30, 40, 50}  #Creating set1
Set2 = {30, 40, 50, 60, 70} #Creating Set2
print("Set1 is ",Set1)
print("Set2 is ",Set2)
print("Before updating Set1 is ",Set1)
Set1.intersection_update(Set2) #Doing intersection update
on set1
print("After updating Set1 is ",Set1)
```

OUTPUT:

Set1 is {50, 20, 40, 10, 30}

Set2 is {50, 70, 40, 60, 30}

Before updating Set1 is {50, 20, 40, 10, 30}

After updating Set1 is {40, 50, 30}