Class Exercise:

List exercises

1. Write a Python program to remove the intersection of a second set with a first set.

Sample Output:

Original sets:

{1, 2, 3, 4, 5}

{4, 5, 6, 7, 8}

Remove the intersection of a 2nd set from the 1st set using difference\_update():

sn1: {1, 2, 3}

sn2: {4, 5, 6, 7, 8}

Remove the intersection of a 2nd set from the 1st set using -= operator:

sn1: {1, 2, 3}

sn2: {4, 5, 6, 7, 8}

2. Write a Python program to check if a given set is a superset of itself and a superset of another given set.

Original set: {40, 10, 50, 20, 30}

If nums is superset of itself?

True

num1 = {1, 2, 3, 4, 5, 7}

num2 = {2, 4}

num3 = {2, 4}

If mum1 is superset of num2:

True

Compare mum2 and num3:

If mum2 is superset of num3:

False

If mum3 is superset of num2:

False

3. Write a Python program to find elements in a given set that are not in another set.

Original sets:

{1, 2, 3, 4, 5}

{4, 5, 6, 7, 8}

Difference of sn1 and sn2 using difference():

{1, 2, 3}

Difference of sn2 and sn1 using difference():

{8, 6, 7}

Difference of sn1 and sn2 using - operator:

{1, 2, 3}

Difference of sn2 and sn1 using - operator:

{8, 6, 7}

4. Write a Python program to check if two given sets have no elements in common.

Original set elements:

{1, 2, 3, 4}

{4, 5, 6, 7}

{8}

Confirm two given sets have no element(s) in common:

Compare x and y:

False

Compare x and z:

True

Compare y and z:

True

5. Write a Python program to check if a given value is present in a set or not.

Original sets(nums): {1, 3, 5, 7, 9, 11}

Test if 6 exists in nums:

False

Test if 7 exists in nums:

True

Test if 11 exists in nums:

True

Test if 0 exists in nums:

False

Test if 6 is not in nums

True

Test if 7 is not in nums

False

Test if 11 is not in nums

False

Test if 0 is not in nums

True

6. Write a Python program to find the length of a set.

Original set elements:

{2, 3, 5, 10, 15, 20}

<class 'set'>

Length of the said set:

6

Original set elements:

{5}

<class 'set'>

Length of the said set:

1

Original set elements:

{5, 7}

<class 'set'>

Length of the said set:

2

7. Write a Python program to find the maximum and minimum values in a set.

Original set elements:

{2, 3, 5, 10, 15, 20}

<class 'set'>

Maximum value of the said set:

20

Minimum value of the said set:

2

8. Write a Python program that uses frozensets.

Note: Frozensets behave just like sets except they are immutable.

False

frozenset({1, 2})

frozenset({1, 2, 3, 4, 5, 6, 7})

9. Write a Python program to remove all elements from a given set.

Original set elements:

{'Green', 'Black', 'Red', 'White'}

After removing all elements of the said set.

set()

10. Write a Python program to create a shallow copy of sets.

Note : Shallow copy is a bit-wise copy of an object. A new object is created that has an exact copy of the values in the original object.

{'Red', 'Green'}