



# Python - Join Sets

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## Join Two Sets

There are several ways to join two or more sets in Python.

You can use the `union()` method that returns a new set containing all items from both sets, or the `update()` method that inserts all the items from one set into another:

### Example

The `union()` method returns a new set with all items from both sets:

```
set1 = {"a", "b" , "c"}
set2 = {1, 2, 3}

set3 = set1.union(set2)
print(set3)
```

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### Example

The `update()` method inserts the items in set2 into set1:

```
set1 = {"a", "b" , "c"}
set2 = {1, 2, 3}

set1.update(set2)
print(set1)
```

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**Note:** Both `union()` and `update()` will exclude any duplicate items.

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## Keep ONLY the Duplicates

The `intersection_update()` method will keep only the items that are present in both sets.

### Example

Keep the items that exist in both set `x`, and set `y` :

```
x = {"apple", "banana", "cherry"}
y = {"google", "microsoft", "apple"}

x.intersection_update(y)

print(x)
```

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The `intersection()` method will return a *new* set, that only contains the items that are present in both sets.

### Example

Return a set that contains the items that exist in both set `x`, and set `y` :

```
x = {"apple", "banana", "cherry"}
y = {"google", "microsoft", "apple"}

z = x.intersection(y)

print(z)
```

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## Keep All, But NOT the Duplicates

The `symmetric_difference_update()` method will keep only the elements that are NOT present in both sets.

### Example

Keep the items that are not present in both sets:

```
x = {"apple", "banana", "cherry"}
y = {"google", "microsoft", "apple"}

x.symmetric_difference_update(y)

print(x)
```

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The `symmetric_difference()` method will return a new set, that contains only the elements that are NOT present in both sets.

### Example

Return a set that contains all items from both sets, except items that are present in both:

```
x = {"apple", "banana", "cherry"}  
y = {"google", "microsoft", "apple"}  
  
z = x.symmetric_difference(y)  
  
print(z)
```

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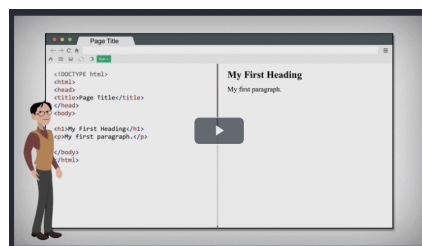
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