Python issuperset

Summary: in this tutorial, you'll learn how to use the Python `issuperset()` method to check if a set (https://www.pythontutorial.net/python-basics/python-set/) is a superset of another.

Introduction to Python issuperset method

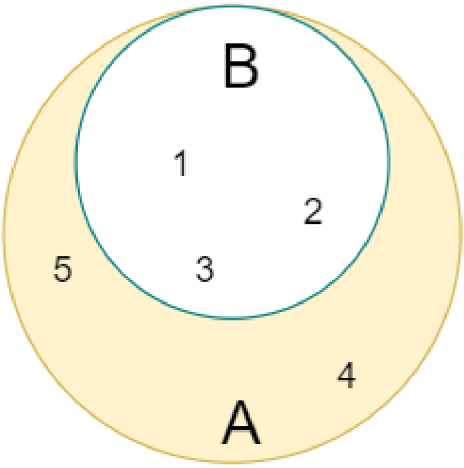
Suppose that you have two sets: A and B. Set A is a superset of set B if all elements of set B are elements of set A.

If set A is a superset of set B, then set B is a subset of set A. To check if a set is a subset of another, you use the `issubset()` `(https://www.pythontutorial.net/python-basics/python-issubset/)` method.

If set A and set B are not equal, set A is a **proper** superset of set B.

Logically, a set is a superset of itself.

The following illustrates that set A is the superset of the set B because the elements 1, 2, 3 in the set B are also in set A:



In Python, you use the set `issuperset()` method to check if a set is a superset of another set:

```
set_a.issuperset(set_b)
```

The `issuperset()` returns `True` if the `set_a` is a superset of the `set_b` . Otherwise, it returns `False` .

Python issuperset() method examples

The following example uses the `issuperset()` to check if the numbers set is a superset of the scores set:

```
numbers = {1, 2, 3, 4, 5}
scores = {1, 2, 3}

result = numbers.issuperset(scores)

print(result)
```

Output:

```
True
```

Since all elements of the scores set are present in the numbers set, the numbers set is the superset of the scores set.

A set is also a superset of itself. For example:

```
numbers = {1, 2, 3, 4, 5}
result = numbers.issuperset(numbers)

print(result)
```

Output:

```
True
```

The scores set is not a subset of the numbers set therefore the following example returns `False` :

```
numbers = {1, 2, 3, 4, 5}
scores = {1, 2, 3}

result = scores.issuperset(numbers)

print(result)
```

Output:

```
False
```

Using superset operators

The >= operator determines if a set is a superset of another set:

```
set_a >= set_b
```

The `>=` operator returns `True` if the `set_a` is a superset of the `set_b` . Otherwise, it returns `False` . For example:

```
numbers = {1, 2, 3, 4, 5}
scores = {1, 2, 3}

result = numbers >= scores
print(result)  # True

result = numbers >= numbers
print(result)  # True
```

Output:

```
True
True
```

To check if a set is a **proper** superset of another set, you use the > operator:

```
set_a > set_b
```

For example:

```
numbers = {1, 2, 3, 4, 5}
scores = {1, 2, 3}

result = numbers > scores
print(result)  # True

result = numbers > numbers
print(result)  # True
```

Output:

```
True
False
```

In this example, the set `numbers` is not a proper superset of itself, therefore, the `>` operator returns `False` .

Summary

- a set A is a superset of a set B if all elements of the set B are elements of the set A.
- Use Python `issuperset()` method to check if a set is a superset of another.
- Use the superset operator (`>=`) or proper superset operator (`>`) to check if a set is a superset or proper superset of another set.