Sets

Sets unlike lists do not work with duplicated values.

Input

```
1    my_set = {1, 2, 3, 3, 4, 4, 4, 4, 4, 4, 4}
2
3    #my_set.remove(3) # It will remove both
4
5    print(my_set)
6
7    #Union:
8    #The union of two sets returns a new set that contains all the unique elements from both sets.
9
10   my_set_1 = [1, 2, 3, 3, 4, 4, 4, 4, 4, 4, 4]
11
12   print(my_set_1)
```

Output

Set{}

List[]

```
PS C:\Users\lynnj\OneDrive\Desktop\Data_Structure> & C:/Users/lynnj/AppData/Local/
ktop/Data_Structure/set.py
{1, 2, 3, 4}
[1, 2, 3, 3, 4, 4, 4, 4, 4, 4, 4]
PS C:\Users\lynnj\OneDrive\Desktop\Data_Structure>
```

Union & Intersection

Union and Intersection operations on sets using built-in methods or operators.

Union: The union of two sets returns a new set that contains all the unique elements from both sets.

Using the '|' operator:

Input Example 1

```
set1 = {1, 2, 3}
set2 = {3, 4, 5}
union_set = set1 | set2
print(union_set)  # Output: {1, 2, 3, 4, 5}
```

Input Example 2

```
# Example #2

set3 = {1, 2, 3}
set4 = {3, 4, 5}
union_set_1 = set3.union(set4)
print(union_set_1)  # Output: {1, 2, 3, 4, 5}

# Example #3

set5 = {1, 2, 3}
set6 = {3, 4, 5}

union_set_3 = set5.union(set6)
```

Output

```
PS C:\Users\lynnj\OneDrive\Desktop\Data_Structure> & C:/Users/lynnj/AppData/Local/
ktop/Data_Structure/uinion-set.py
{1, 2, 3, 4, 5}
```

Intersection:

The intersection of two sets returns a new set that contains only the common elements between the two sets.

Using the '&' operator:

```python
#!/usr/bin/python3

# Intersection:
# The intersection of two sets returns a new set
# Using the '&' operator:

# Example #1

set1 = {1, 2, 4}
set2 = {3, 4, 5}
intersection_set = set1 & set2
print(intersection_set)  # Output: {3}


# Example 2
set1 = {1, 2, 4}
set2 = {3, 4, 5}
intersection_set = set1.intersection(set2)
print(intersection_set)  # Output: {3}
```

Output:

```
PS C:\Users\lynnj\OneDrive\Desktop\Data_Structure> &
ktop/Data_Structure/intersection.py
{4}
{4}
PS C:\Users\lynnj\OneDrive\Desktop\Data_Structure>
```