




In Python, a set is an unordered collection of unique elements. Sets are useful when you want to store multiple items, but you don't need to keep track of the order, and duplicates are not allowed. Sets are defined using curly braces `{}` or the `set()` constructor.

Here are some basic operations and information about sets in Python:

Creating Sets:

python


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```
# Creating a set
my_set = {1, 2, 3, 4, 5}

# Creating a set using the set() constructor
another_set = set([3, 4, 5, 6, 7])
```

Basic Set Operations:

python

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```
# Adding elements to a set
my_set.add(6)
my_set.update([7, 8, 9])

# Removing elements from a set
my_set.remove(3)
my_set.discard(10) # Removes 10 if it exists, does nothing otherwise


# Union, Intersection, and Difference
set_union = my_set.union(another_set)
set_intersection = my_set.intersection(another_set)
set_difference = my_set.difference(another_set)

# Checking membership
print(2 in my_set) # True
print(10 not in my_set) # True
```



Set Methods:

python

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```
# Clearing a set
my_set.clear()

# Copying a set
copied_set = my_set.copy()

# Getting the length of a set
length = len(my_set)
```

Set Operations using Operators:

python

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```
# Union, Intersection, and Difference using operators
set_union = my_set | another_set
set_intersection = my_set & another_set
set_difference = my_set - another_set
```

Sets are versatile and can be handy in various situations where you need to perform operations such as deduplication or checking for common elements between different collections. Keep in mind that sets do not maintain order, so if order is important, consider using lists or other data structures.



Code:

```
s = set()
print(type(s))
l = [1,2,3,4]
s_from_list = set(l)
print(s_from_list)
s.add(1)
s.add(2)
print(s)

t = s.union({1,2,3})
print(t)  #{1,2,3}

s.remove(2)
print(s)
s1 = {4,6}
print(s.isdisjoint(s1))  # no element common
s1 = s.union({1,2,3})
print(s,s1)  # {1} {1,2,3}

s1 = s.intersection({1,2,3})
print(s,s1)  # {1}{1}  # only intersection
item print
print(len(s))  #1
s1 = {4,6}
print(s.isdisjoint(s1))  #true
```

Output:



```
C:\Users\test\PycharmProjects\project_1\.venv\Scripts\python.exe C:\Users\test\PycharmProjects\project_1\Project_1.py
<class 'set'>
{1, 2, 3, 4}
{1, 2}
{1, 2, 3}
{1}
True
{1} {1, 2, 3}
{1} {1}
1
True
```