

# Sets

Sets are like dictionaries without values.

## Creating sets

- \* {1, 2, 3, 4}
- \* set([1, 2, 3])
- \* set()
- \* frozenset(...)

Set of elements  
Set from a list  
(Or other iterable object)  
Empty set – {} is dictionary  
Set that you can't change

```
fruit = {'apple', 'pear'}  
unique_numbers = set([3, 1, 3])  
letters = set('chocolate')
```

## Basic operations

- len(x)
- k in x
- \* x.copy()
- x.clear()

Number of elements  
Is k element in the set?  
Copy of the set  
Empty the set

## Elements

- x.add(k)
- x.remove(k)
- x.discard(k)
- x.pop()

Add element k  
Remove element (KeyError if k is not in the set)  
Remove k element only if it's in the set  
It will remove and show any element

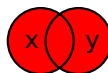
## Subset

- x.isdisjoint(y)
- x.issubset(y)
- x <= y
- x < y
- x.issuperset(y)
- x >= y
- x > y

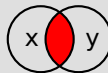
True if sets are disjoint? (i.e. they don't have any  
element in common)  
Is x subset of y?  
Only subset (x!=y)  
Is x superset of y?

## Operations on sets

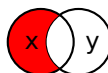
- \* x.union(y)
- \* x | y
- x.update(y)
- \* x.intersection(y)
- \* x & y
- x.intersection\_update(y)
- \* x.difference(y)
- \* x - y
- x.difference\_update(y)
- \* x.symmetric\_difference(y)
- \* x ^ y
- x.symmetric\_difference\_update(y)



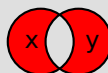
Union



Intersection



Difference



Symetric difference

More info: <https://docs.python.org/3/library/stdtypes.html#set-types-set-frozenset>

\* Function with this sign will create new set