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# iOS & Swift

## Collections

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# What is Collection?

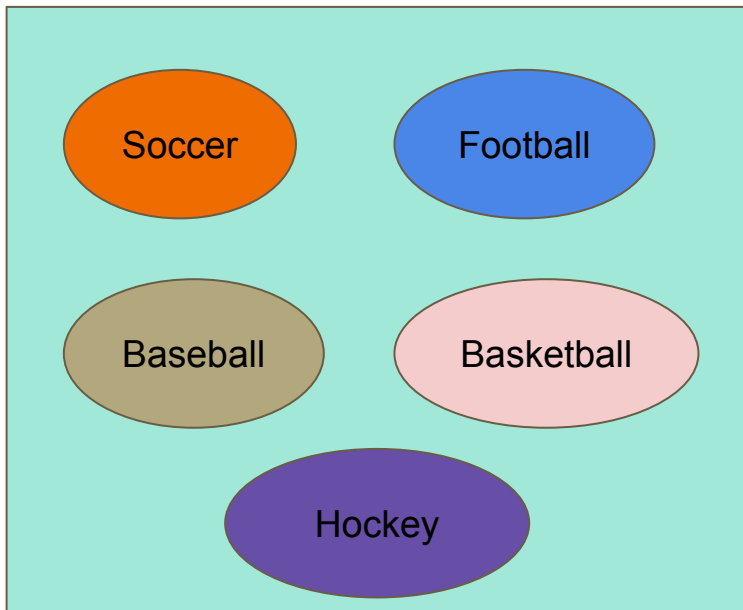
- A container containing different objects
  - Arrays
  - Sets
  - Dictionaries
- Implemented as generic collection

# Arrays

0	Milk
1	Flour
2	Banana
3	Milk
4	Flour
...	...
N	...

- Ordered collection of objects of the same type
- Array of
  - strings
  - integers
  - objects
  - arrays
  - ...
- `Array<Element>`
- `[Element]`
- Same value can appear multiple times

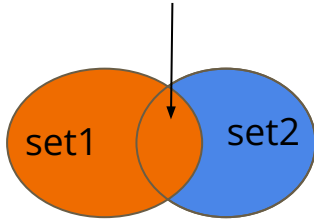
# Sets



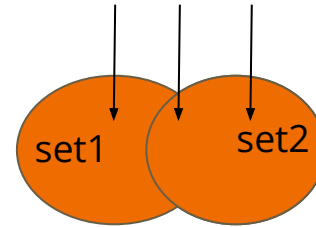
- Unordered collection of unique values/objects
- Type of objects should be hashable
- `Set<Element>`

# Sets (Operations)

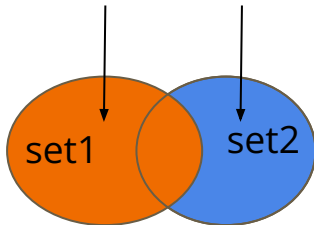
`set1.intersection(set2)`



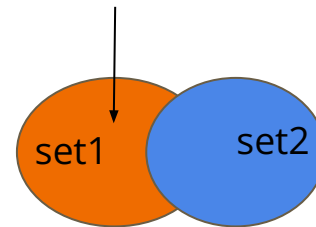
`set1.union(set2)`



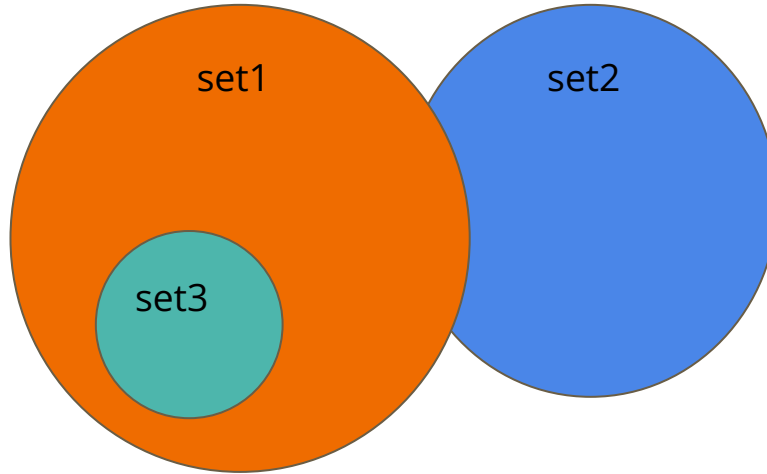
`set1.symmetricDifference(set2)`



`set1.subtracting(set2)`



# Sets (Membership & Equality)



# Dictionaries

0	Milk
1	Flour
3	Banana
4	Apple
5	Sugar
...	...
N	...

- Unordered collection of key-value associations
- Dictionary<Key, Value>
- [Key: Value]
- Fast look up of values using keys like real-life dictionary
- Keys type supposed to be hashable, like type of objects in Set

# Demo



# Helpful Resources, References and Take Home

- Exercise to do at home:
  - Implement a collection (array) that has 20 different numbers and print its content
- External References/Tutorials:
  - [Collection Types](#)