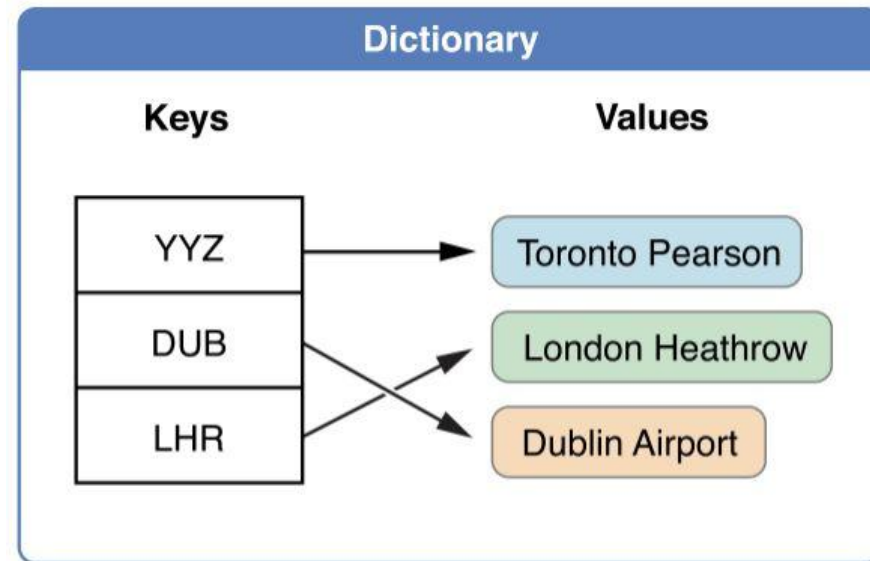


Dictionaries

What is a Dictionary

A dictionary is an unordered collection of key-value pairs

Array	
Indexes	Values
0	Six Eggs
1	Milk
2	Flour
3	Baking Powder
4	Bananas

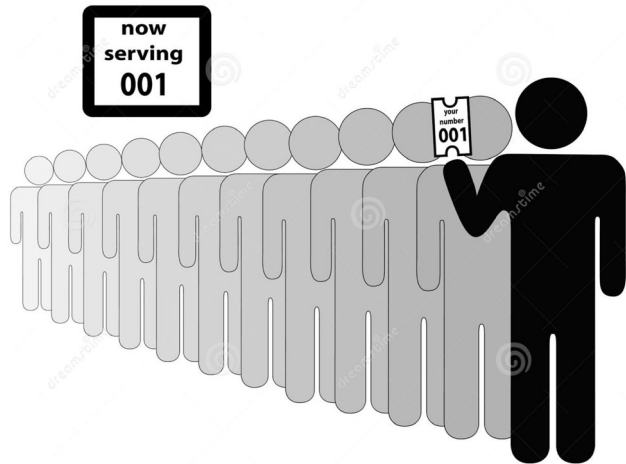


Ordered vs. Unordered Collections

In ordered collections (example: arrays), the position of the data matters.

In an unordered collection, position of the data **does not** matter.

- As a result, you cannot access or manipulate data by *position*



In real life, there is a big difference between being first in line vs. last in line!



An example of a situation where your position doesn't matter

Declaring a Dictionary

Dictionaries are declared using the `[:]` symbol:

- Key-value pairs are separated using commas (,)

```
let httpResponseCodes:[Int:String] = [  
  400:"Bad Request",  
  502:"Bad Gateway",  
  200:"OK",  
  201:"Created",  
  404:"Not Found"  
]
```

Data type for key, data type for value

Key-Value pair

key

value

Declaring an Dictionary with Mixed Values

To declare a dictionary where the *value* is of mixed data types, use the **Any** keyword

```
let person:[String:Any] = [  
    "name":"Peter",  
    "age":45,  
    "hasPets":false,  
    "friends":["Lee", "Michelle", "Emily"],  
    "employer":["name":"Apple", "address":"123 Infinity Drive", "city":"Cupertino"]  
]
```

Declaring an Empty Dictionary

An object can have as few or as many properties (key value pairs) as is needed.

To declare an empty dictionary:

```
var httpReponseCodes:[Int:String] = [:]
```

Accessing a Key-Value Pair

Items in an dictionary can be accessed using square notation []

```
var airports: [String: String] = [  
    "YYZ": "Toronto Pearson",  
    "DUB": "Dublin",  
    "LHR": "London Heathrow"  
]
```

```
print(airports["LHR"]) // outputs "London Heathrow Airport"
```

name of dictionary

key that you want to access


Updating an Existing Key-Value Pair

To update a key-value pair, set the value:


```
var airports: [String: String] = [  
    "YYZ": "Toronto Pearson",  
    "DUB": "Dublin",  
    "LHR": "London Heathrow"  
]
```

```
airports["LHR"] = "Gatwick Airport!"
```

name of dictionary



The new value associated with the
LHR key



Adding a New Key-Value Pair

The below code adds 3 new airports to the dictionary:

```
var airports: [String: String] = [  
    "YYZ": "Toronto Pearson",  
    "DUB": "Dublin",  
    "LHR": "London Heathrow"  
]
```

```
airports["YVR"] = "Vancouver International Airport"  
airports["LAX"] = "Los Angeles Airport"  
airports["JFK"] = "John F. Kennedy Airport"
```

Deleting a New Key-Value Pair

To delete a key, set the key's *value* to nil.

```
var airports: [String: String] = [  
    "YYZ": "Toronto Pearson",  
    "DUB": "Dublin",  
    "LHR": "London Heathrow"  
]
```

```
airports["LHR"] = nil
```