

# iPhone App Dev

## Lesson 5

# Source

<https://github.com/bryanttang/iOS-Class-2015-6.git>

# Contact

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# Summary

- NSArray
- UITableViewController
- Custom Cell
- NSDictionary

NSArray

# NSArray

- Store a set of objects
- Generate an ordered collection of objects
- Searching objects
- Compare object in difference array

# NSArray

- Static (NSArray)
- Dynamic (NSMutableArray)

length = 4 (ever)



length = 4 (Temporary)

# NSArray

- Declaration

```
NSArray *cars =@[ obj1, obj2, obj3];
```

```
NSArray *cars = [[NSArray alloc] initWithObjects:obj1,obj2,nil] ;
```

```
NSArray *cars = [[NSArray alloc] initWithArray: Array2];
```



# NSArray

- Example:

```
NSArray *cars = @[@"Ferrari", @"Audi", @"Chevrolet", @"Porsche"];
```

```
for (int i = 0 ; i < [cars count]; i++) {  
    NSLog(@"Car %d : %@", i, [cars objectAtIndex:i]);  
}
```

Result:

```
2014-04-28 21:55:41.372 Consumer_iPad[314:60b] Car 0 : Ferrari  
2014-04-28 21:55:41.374 Consumer_iPad[314:60b] Car 1 : Audi  
2014-04-28 21:55:41.376 Consumer_iPad[314:60b] Car 2 : Chevrolet  
2014-04-28 21:55:41.379 Consumer_iPad[314:60b] Car 3 : Porsche
```

# NSMutableArray

- Declaration:

```
NSMutableArray *CDs = [[NSMutableArray alloc] init]; (*have to alloc first)
```

```
NSMutableArray *CDs = [[NSMutableArray alloc] initWithObjects: @"a", @"b"];
```

- Example:

```
[CDs addObject : @"周杰倫專輯"] ;
```

```
[CDs addObject : @"張學友專輯"] ;
```

```
[CDs addObject : @"張惠妹專輯"] ;
```

```
[CDs removeObject : @"張學友專輯"] ;
```

```
for (int i = 0 ; i < [CDs count]; i++) {  
    NSLog(@"CD %d : %@", i,[CDs objectAtIndex:i]);  
}
```

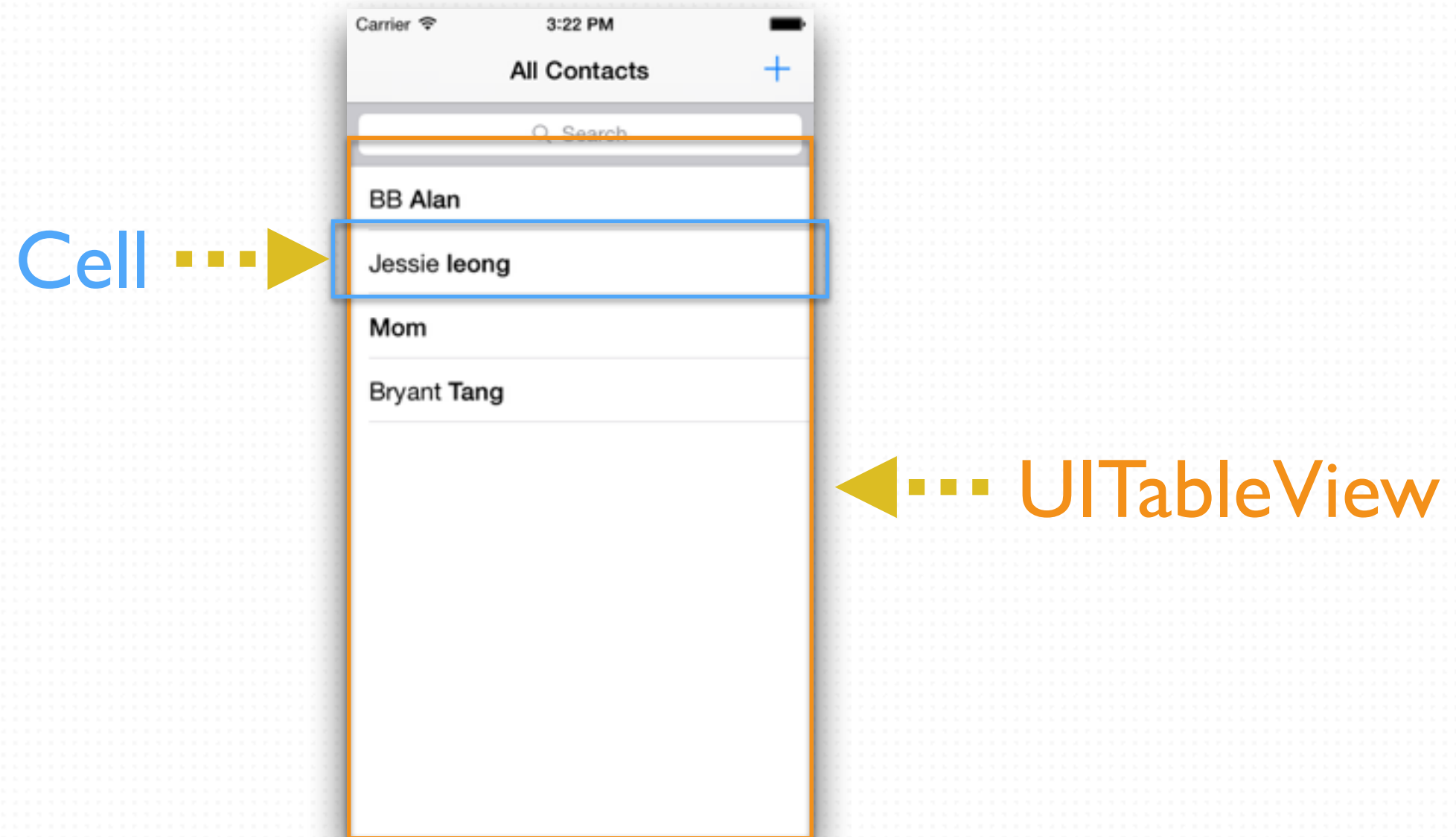
# Exercise

- Use `NSArray` to be the source of `UIPicker`

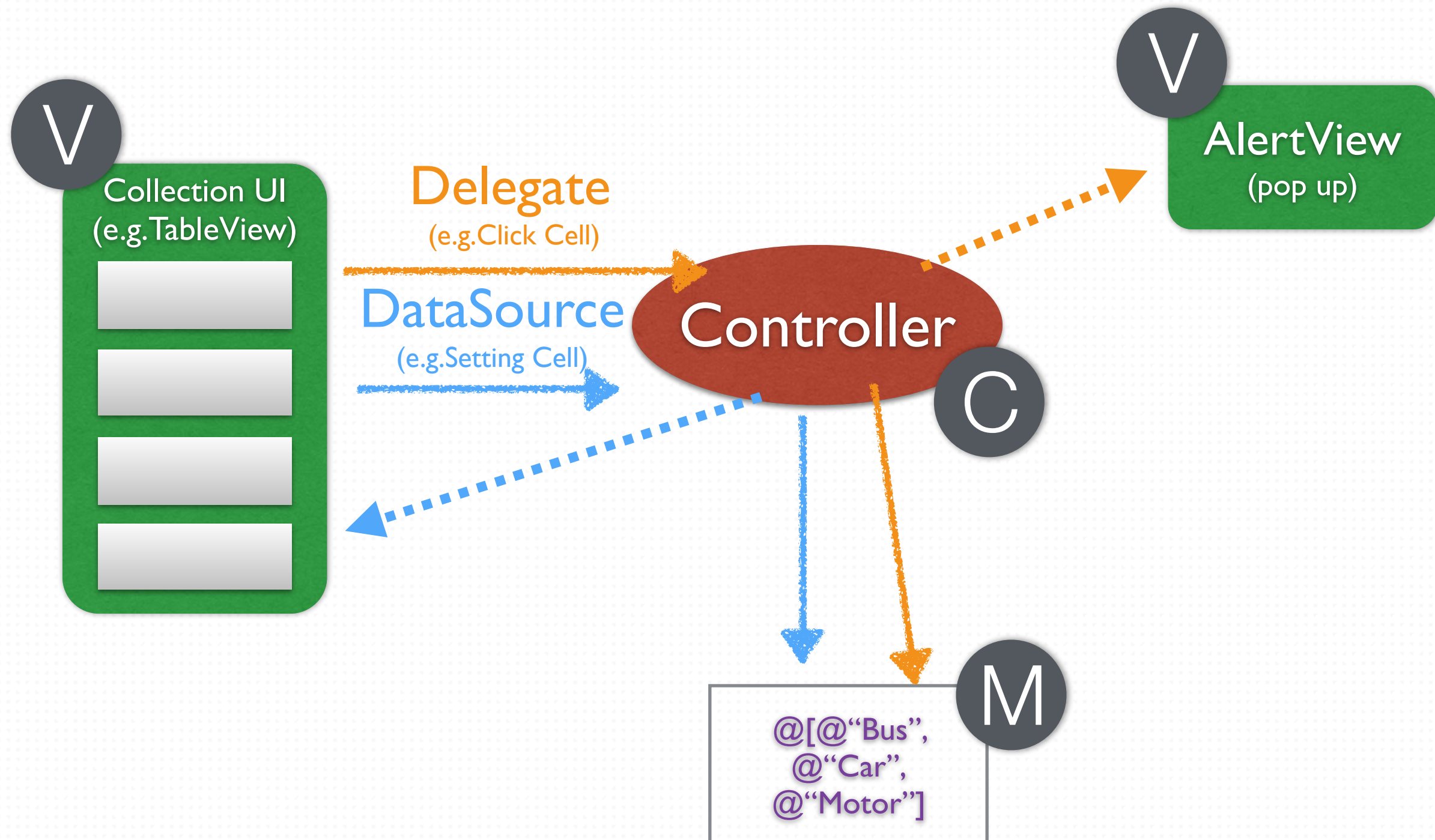
UITableViewController

# UITableViewController

- Control TableView and Cells



# MVC model

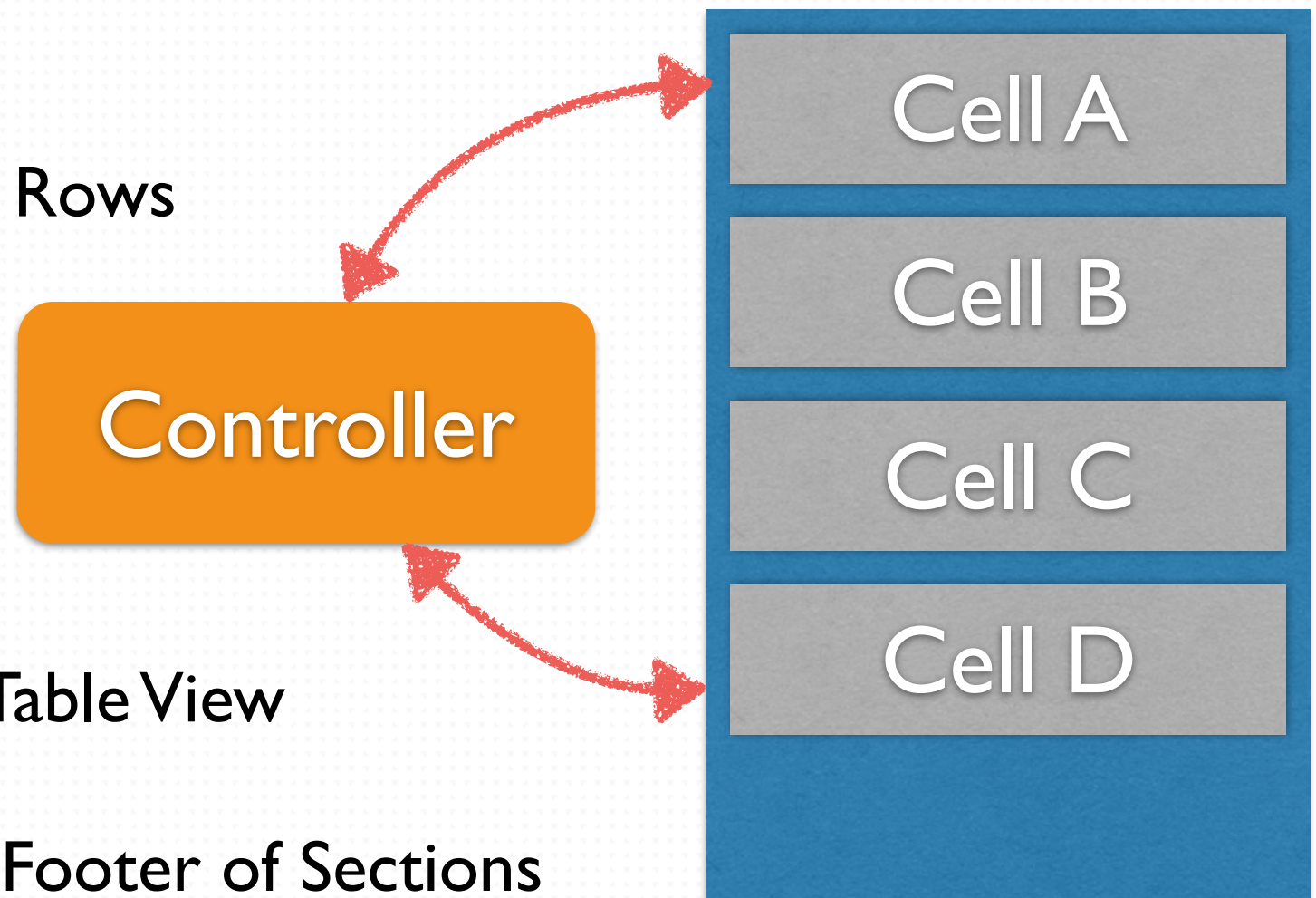




# UITableViewController

- DataSource

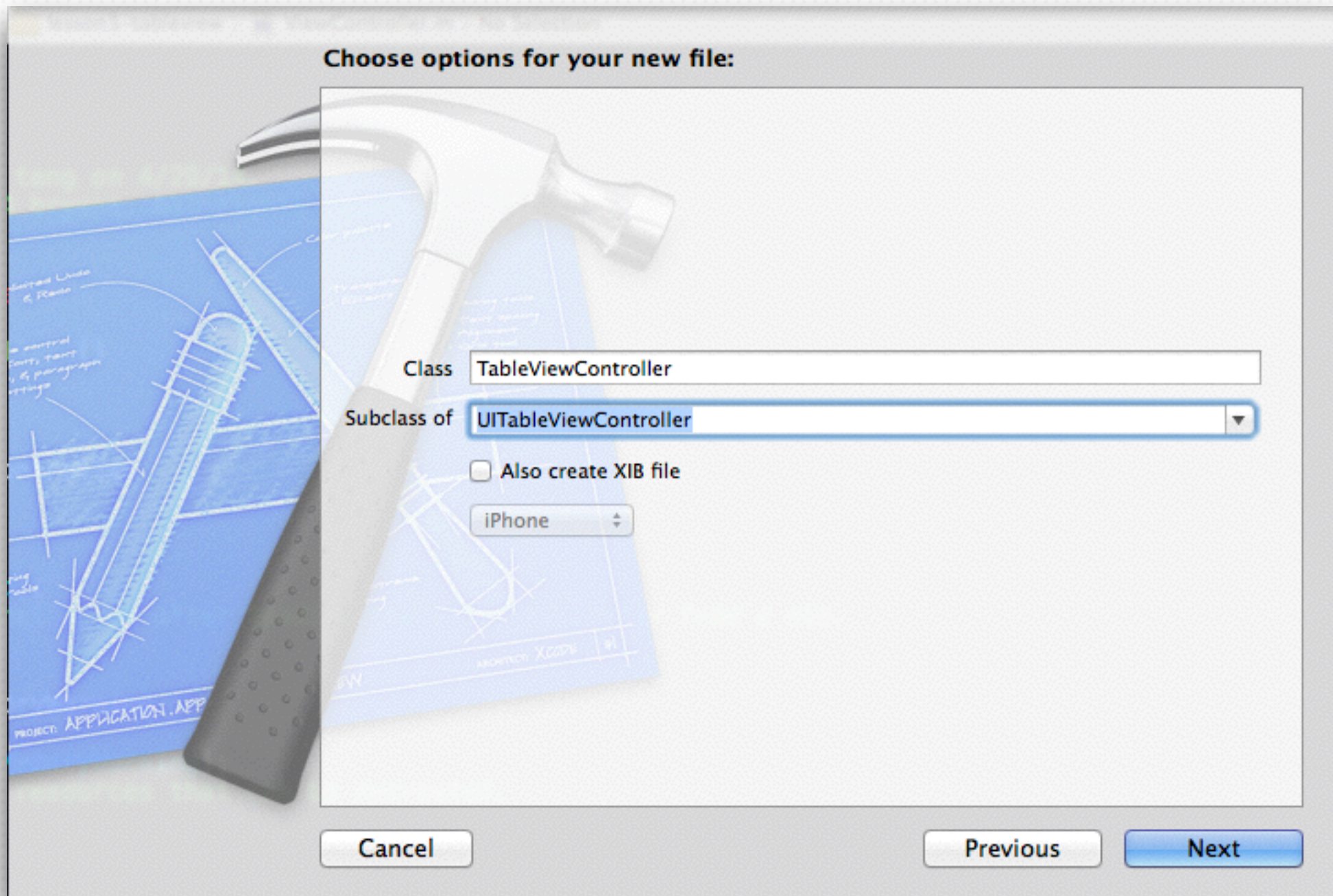
- ❖ Configuring a Table View
- ❖ Inserting or Deleting Table Rows
- ❖ Reordering Table Rows



- Delegate

- ❖ Configuring Rows for the Table View
- ❖ Managing Selections
- ❖ Modifying the Header and Footer of Sections
- ❖ Managing Table View Highlighting

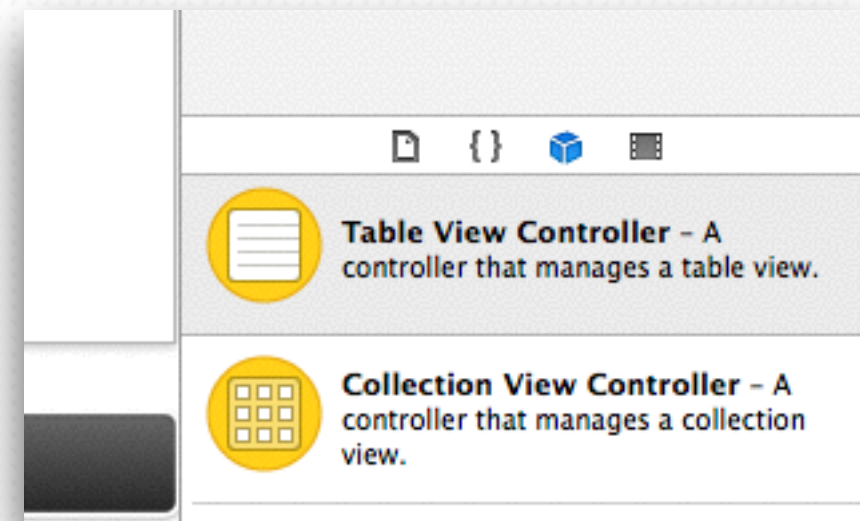
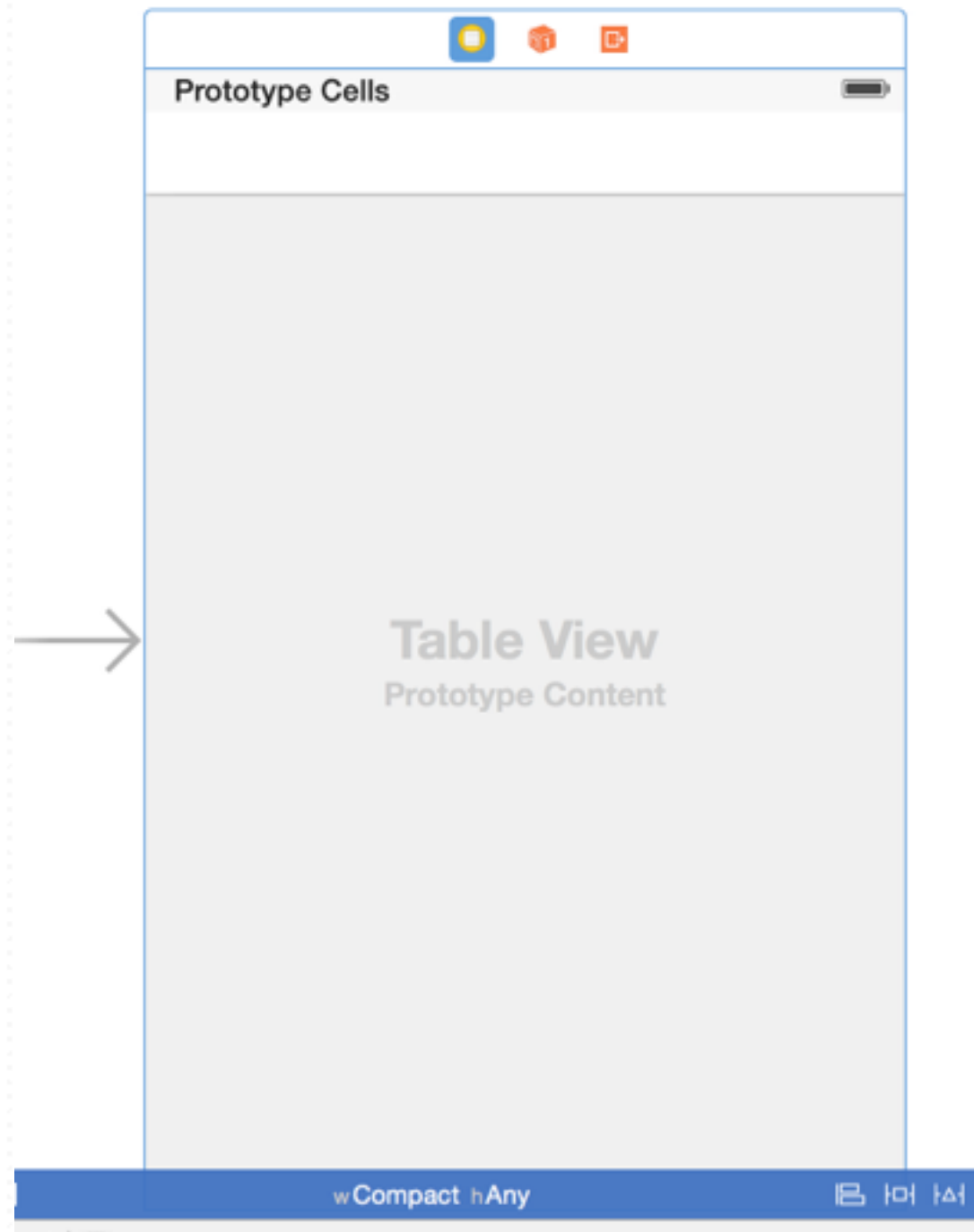
# UITableViewController



Create a UITableViewController

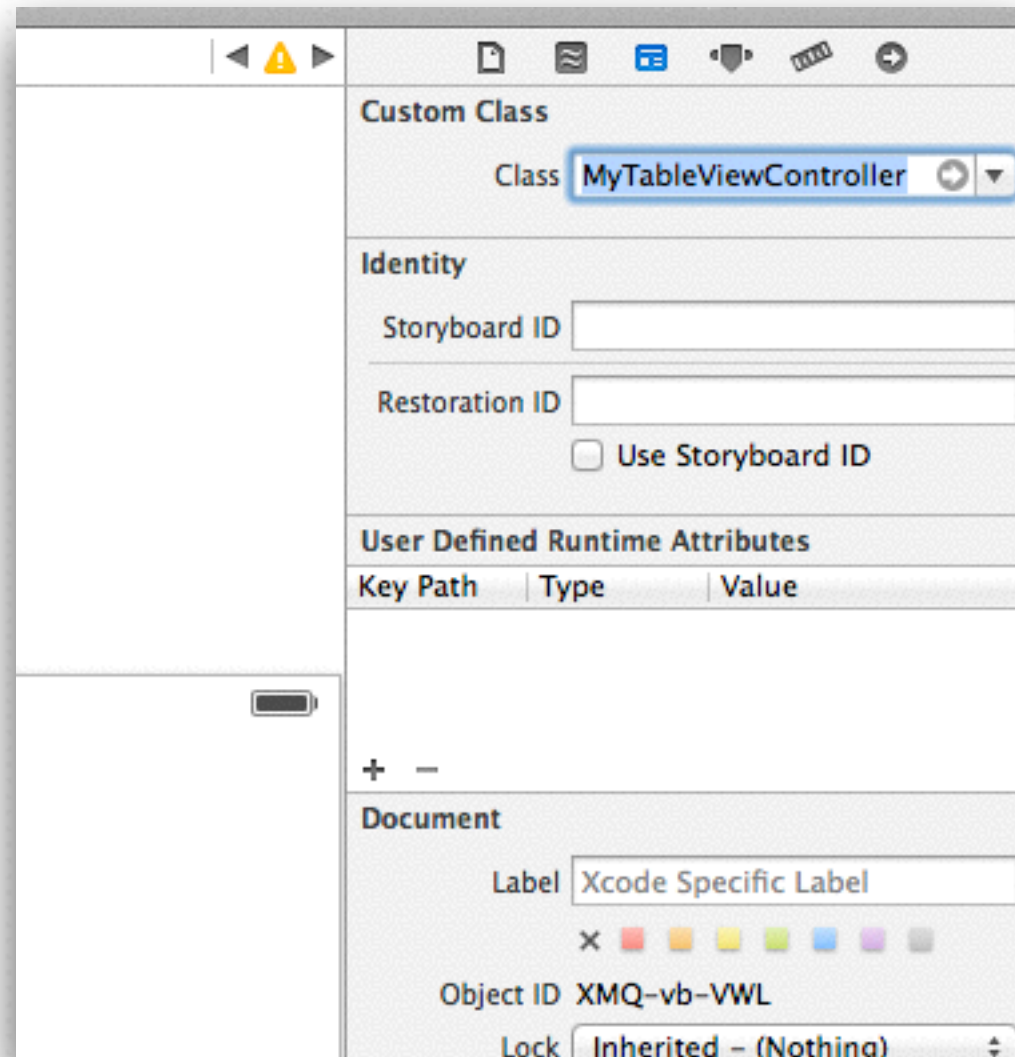


# UITableViewController



Drag a Table View Controller on storyboard

# UITableViewController



Change the **Custom Class** of the UITableViewController to the new class (ex. MyTableViewController)

# UITableViewController

- The Basic setting functions:

- (NSInteger)numberOfSectionsInTableView:(UITableView \*)tableView

(Asks the data source to return the number of sections in the table view)

- (NSInteger)tableView:(UITableView \*)tableView numberOfRowsInSection:(NSInteger)section

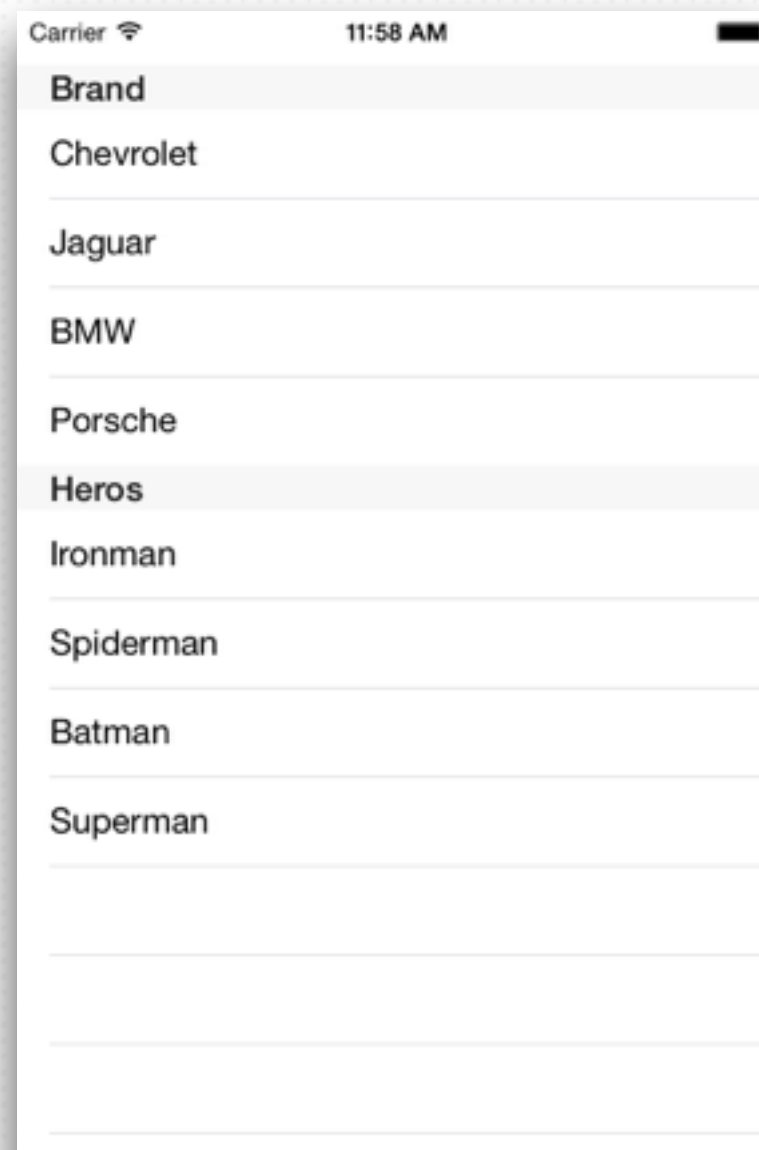
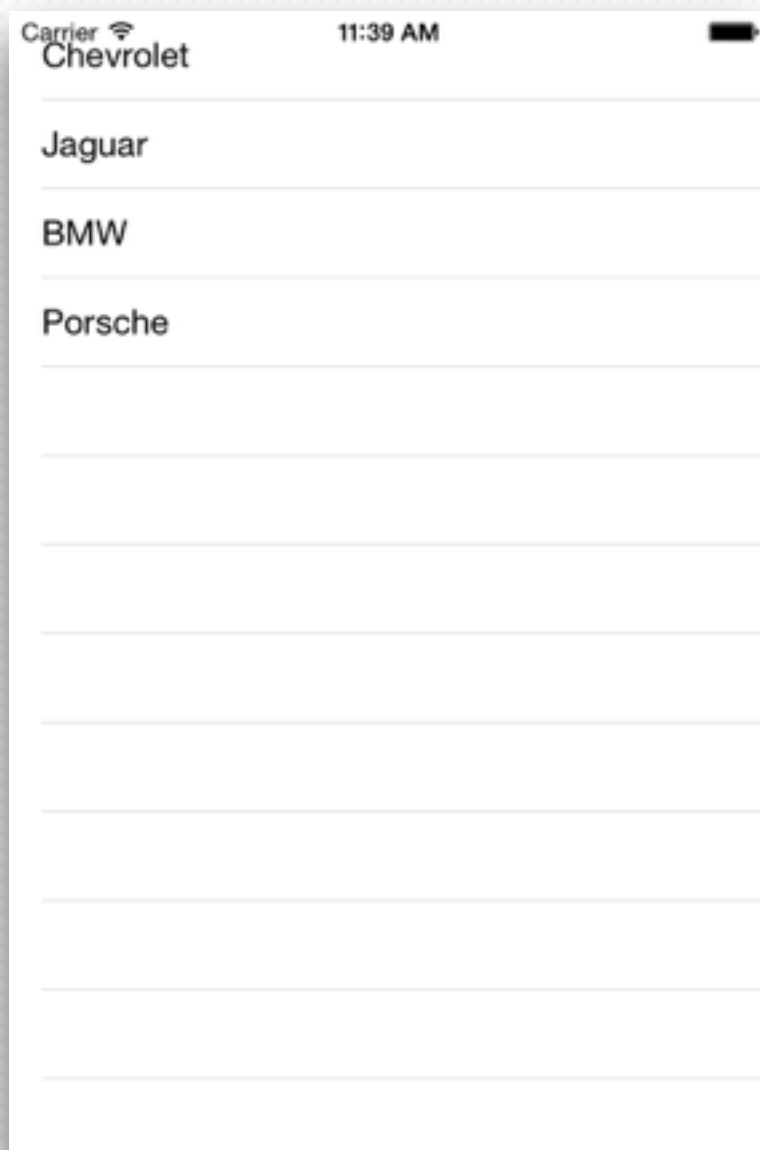
(Tells the data source to return the number of rows in a given section of a table view)

- (UITableViewCell \*)tableView:(UITableView \*)tableView cellForRowAtIndexPath:(NSIndexPath \*)indexPath

(Asks the data source for a cell to insert in a particular location of the table view)

# UITableViewController

- One section and Multi-section



# UITableViewController

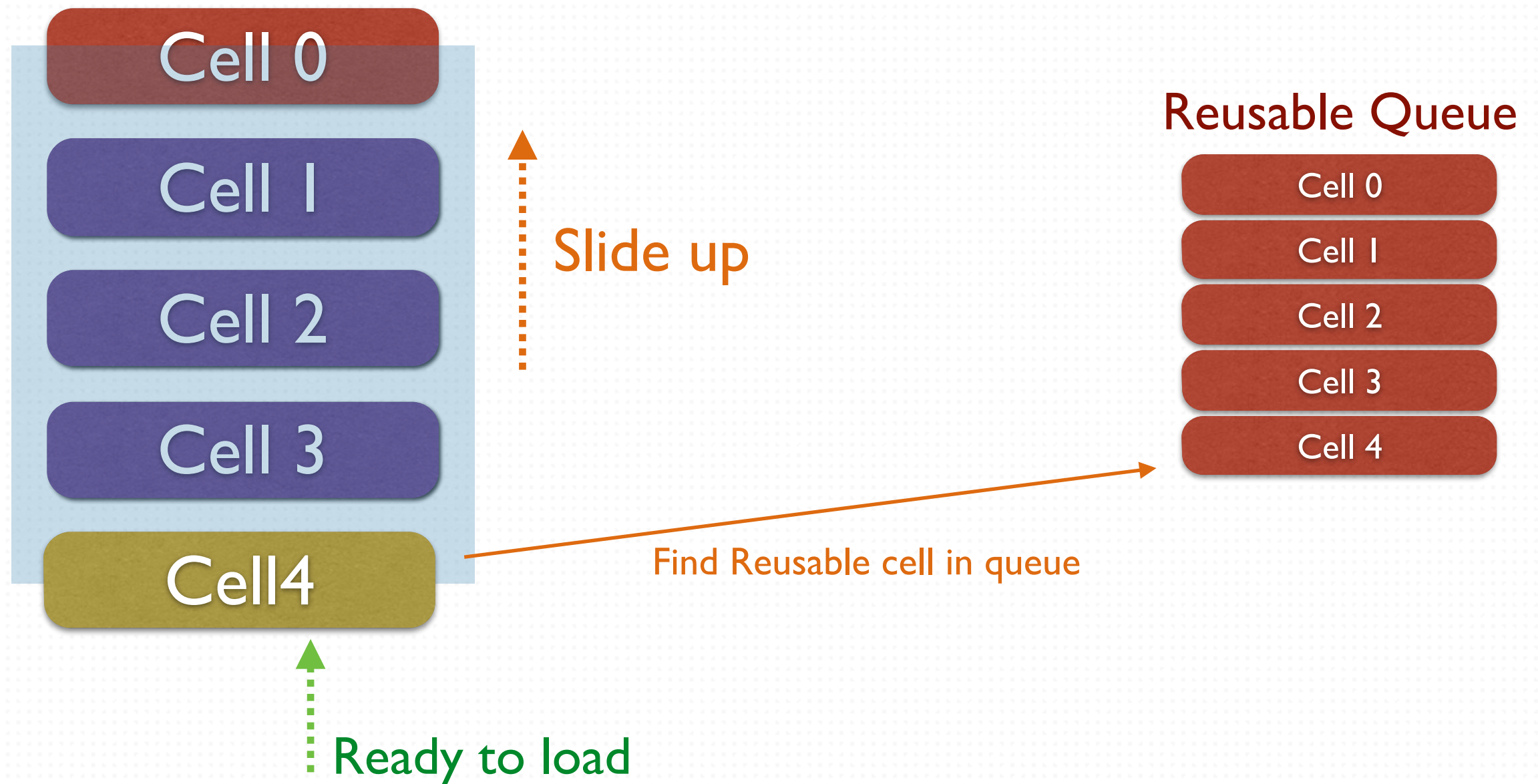
```
- (NSInteger)numberOfSectionsInTableView:(UITableView *)tableView
{
    return 1;
}

- (NSInteger)tableView:(UITableView *)tableView numberOfRowsInSection:(NSInteger)section
{
    return 4;
}

- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)indexPath
{
    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:@"Cell" forIndexPath:indexPath];
    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault reuseIdentifier:@"Cell"];
    }
    cell.textLabel.text = @"Cell A";

    return cell;
}
```

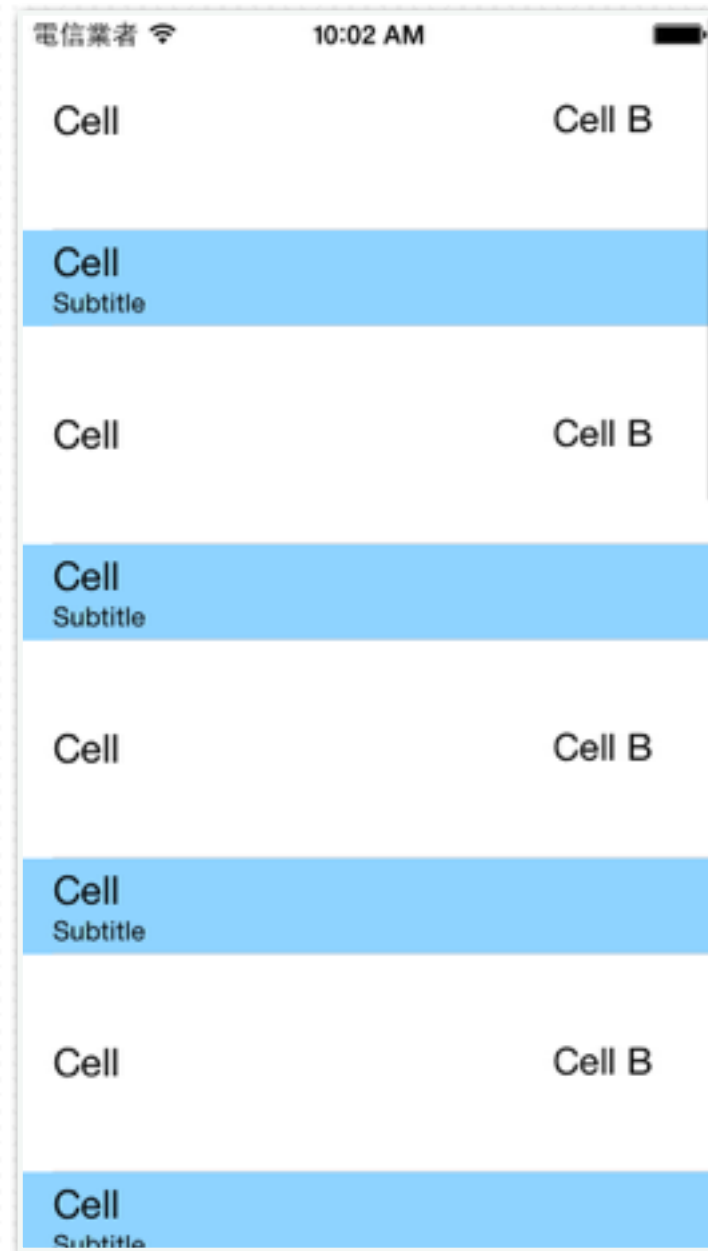
# UITableViewController



How the cell transition work

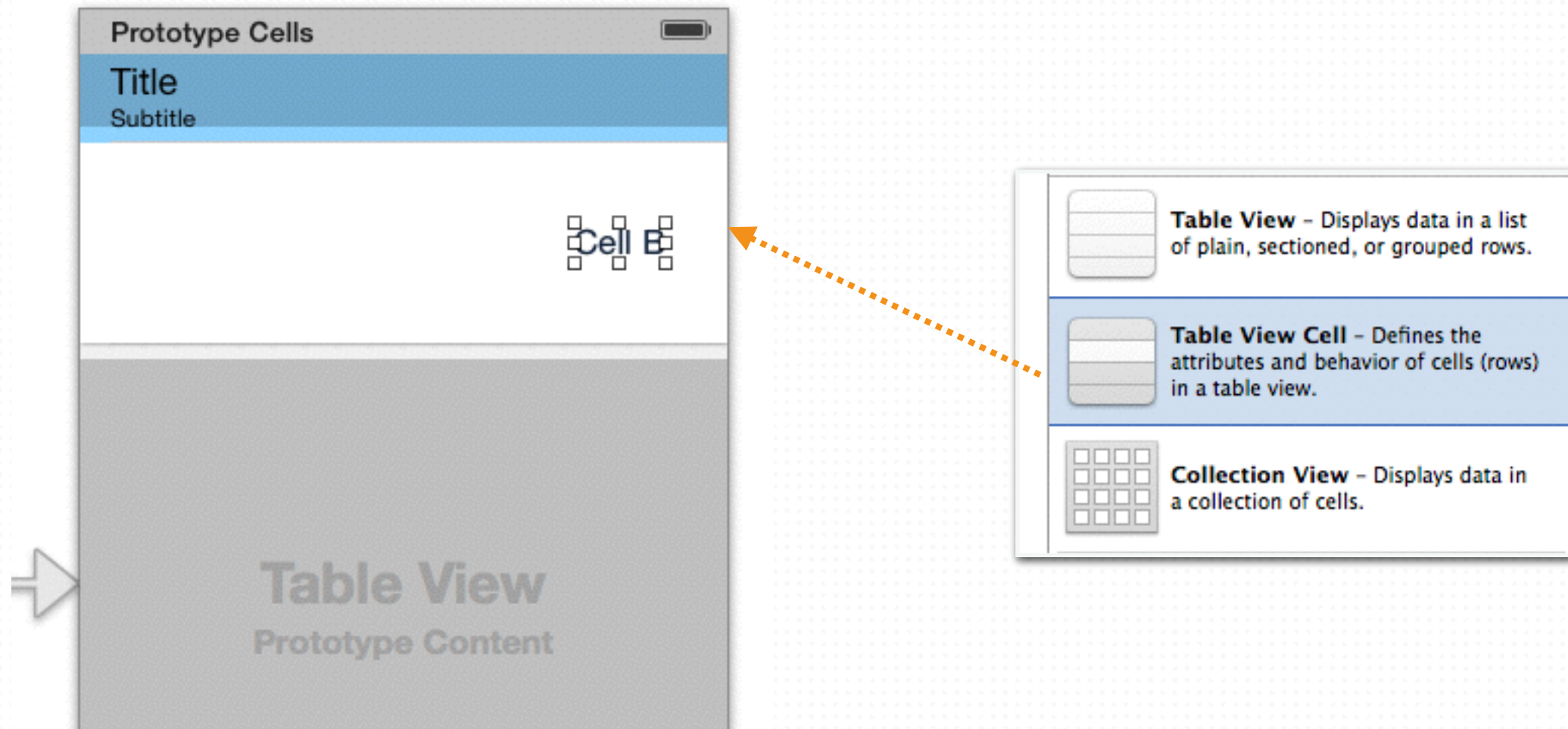


# UITableViewController



Use cell in different style

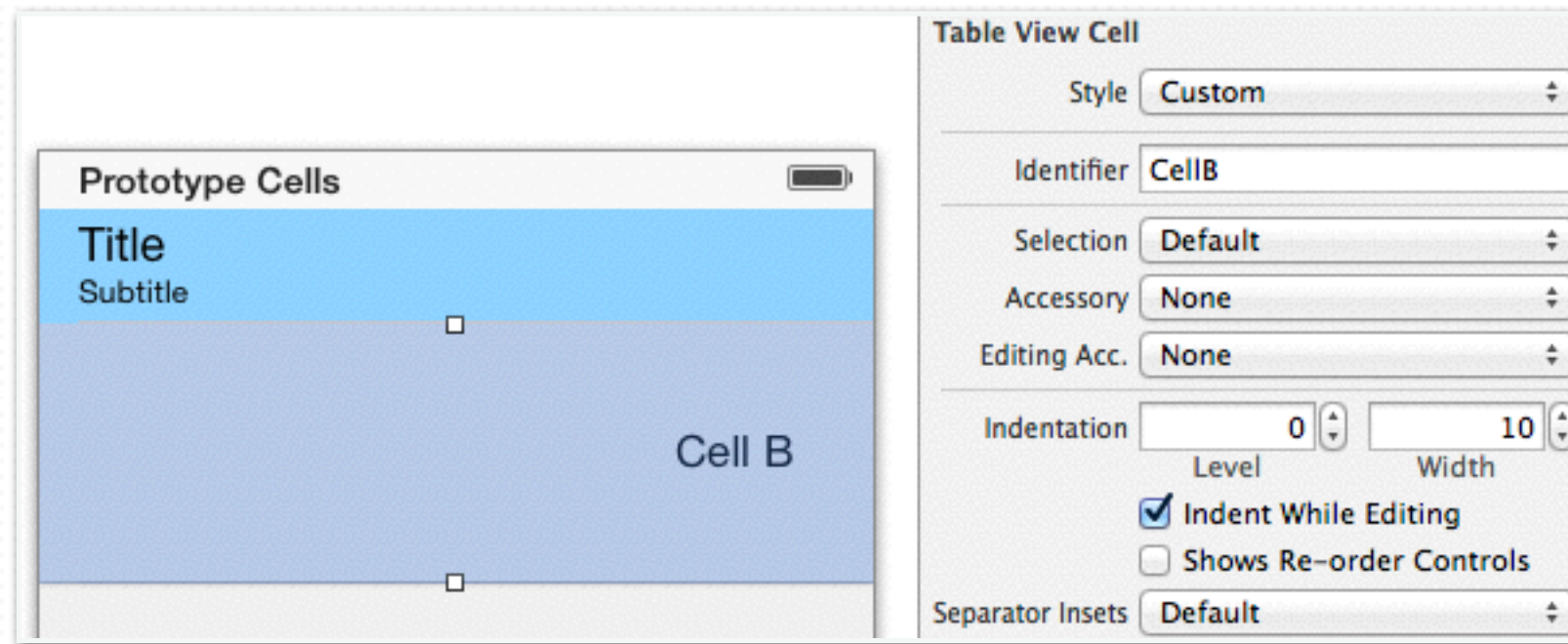
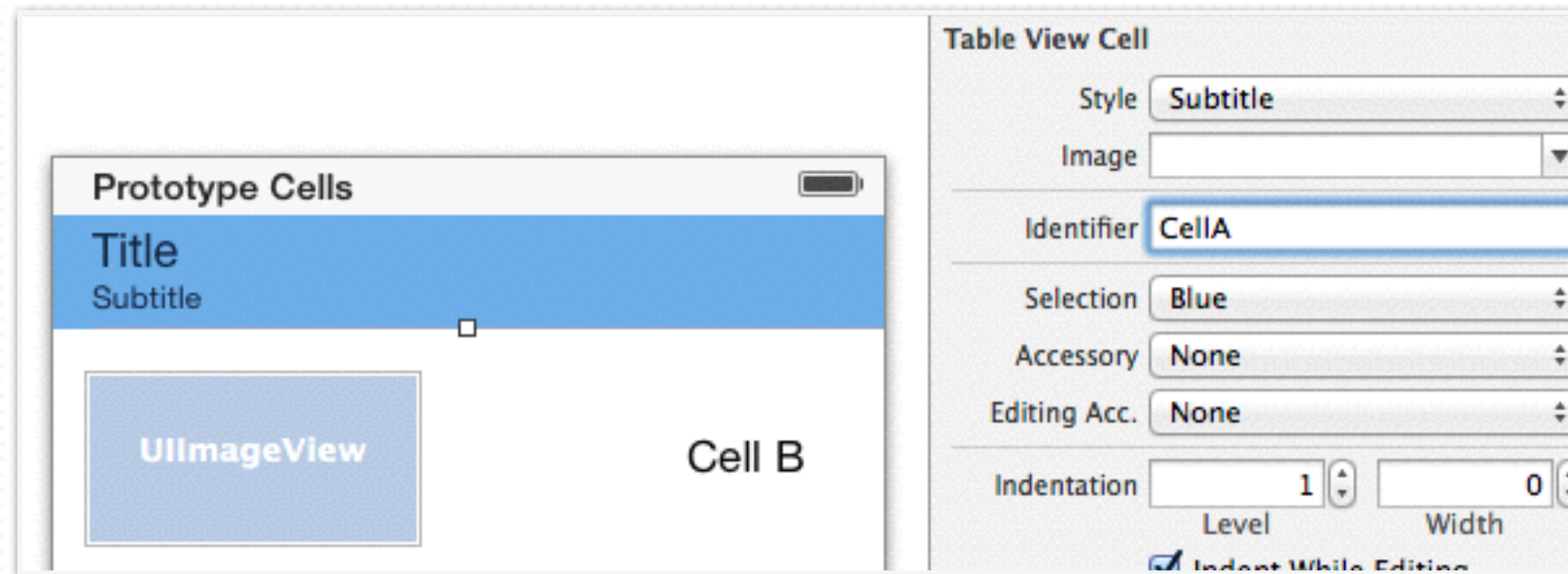
# UITableViewController



Drag a Table View Cell on Table View



# UITableViewController



Use difference cell style in a Table View

# UITableViewController

```
- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)indexPath
{
    NSString *identifier = @"";    //Define a identifier for difference cell style
    if (indexPath.row % 2 != 0) {    //(Single row use "CellB", Double row use "CellA")
        identifier = [NSString stringWithFormat:@"CellA"];
    }else{
        identifier = [NSString stringWithFormat:@"CellB"];
    }

    UITableViewCell *cell = [tableView dequeueReusableCellWithIdentifier:identifier];

    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault reuseIdentifier:identifier];
    }
    cell.textLabel.text = @"Cell";

    return cell;
}
```

Set up cell content

# UITableViewController

- Add the following function to UITableViewController

```
- (CGFloat)tableView:(UITableView *)tableView
heightForRowAtIndexPath:(NSIndexPath *)indexPath{

    if (indexPath.row % 2 != 0) { //mod 2

        return 44.0;
    }else{

        return 100.0;
    }
}
```

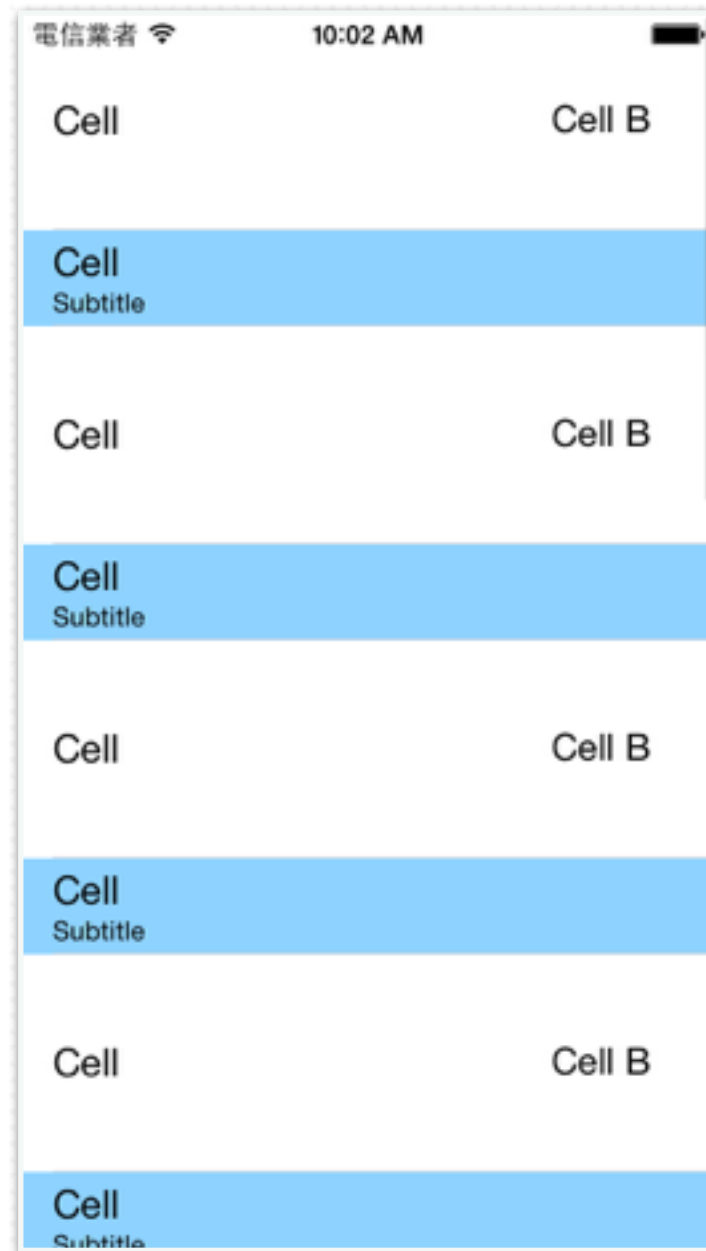
Assign different height of row with respect to indexPath

# UITableViewController

- **Exercise:**

Change the Data Source from hardcode data to data set (NSArray)

# UITableViewController

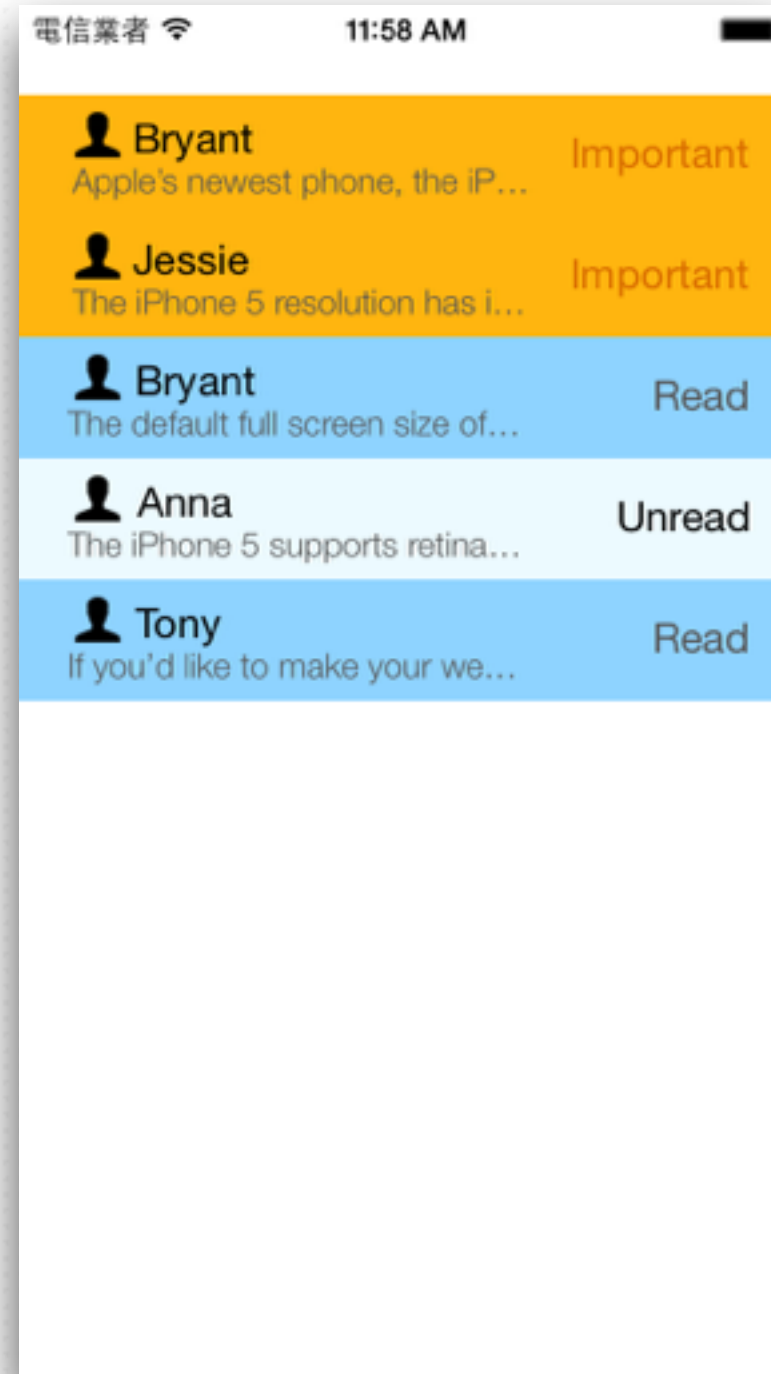


Use difference cell style in a Table View

# Homework

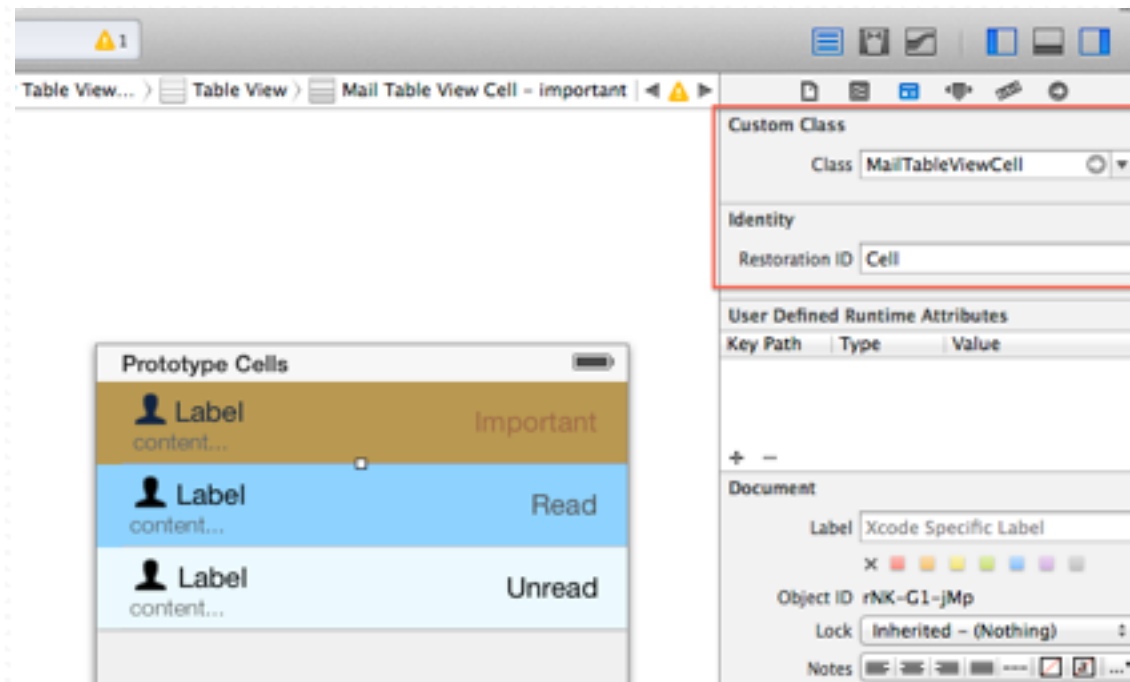
## ✓ Email List

- Custom Cell
- NSDictionary



# Custom cell

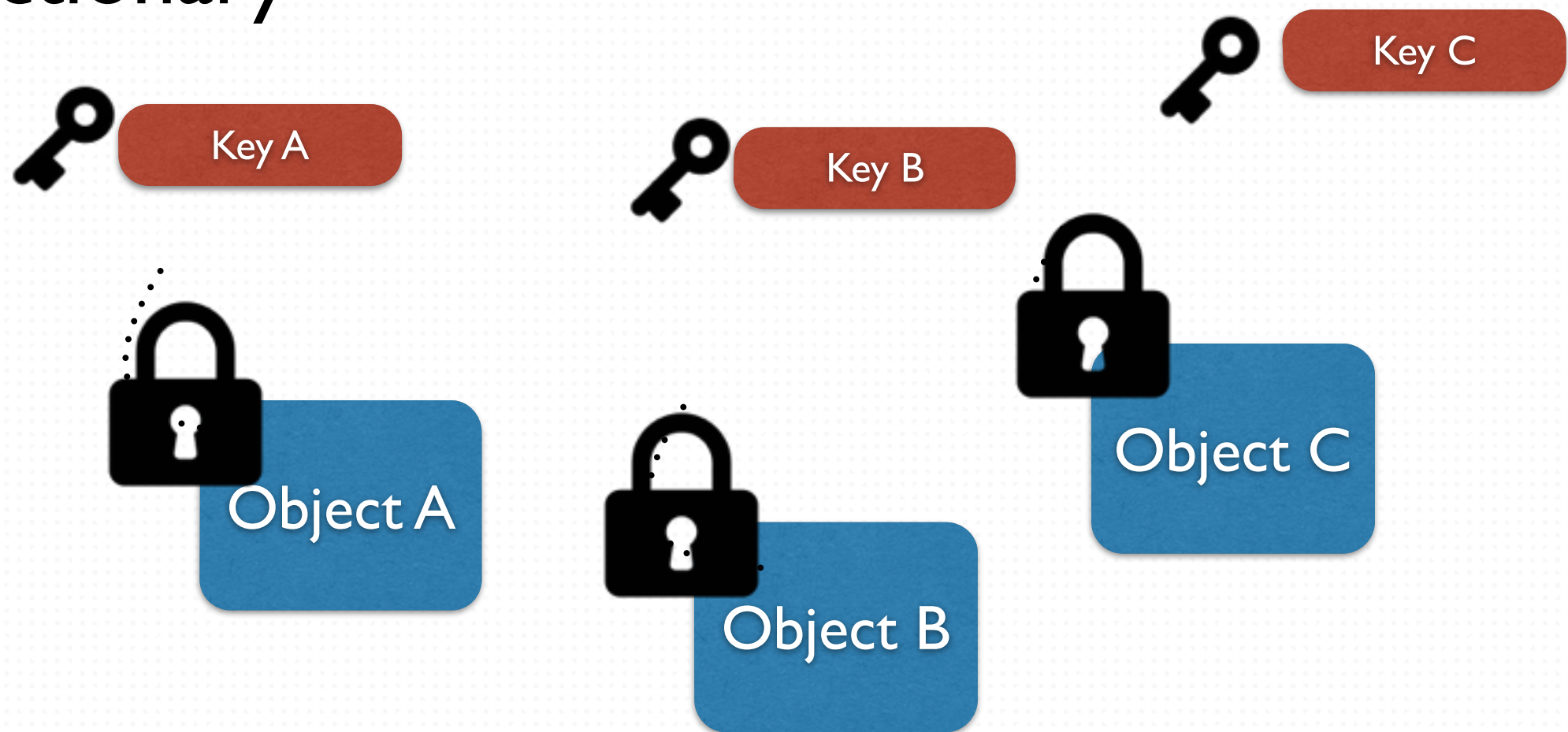
- Create new class, subclass of UITableViewCell
- Import the new class to storyboard





# NSDictionary

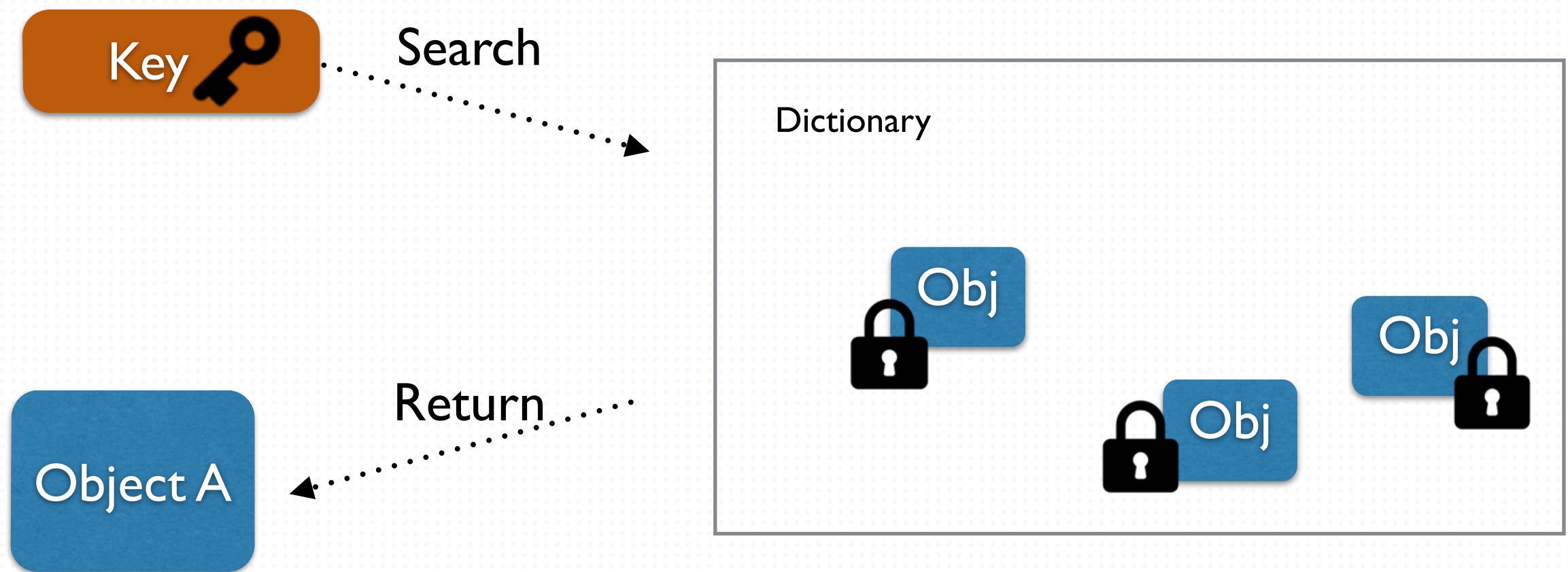
## NSDictionary





# NSDictionary

- Find object in Dictionary



# NSDictionary

- Create a NSDictionary with three objects

## method 1:

```
NSDictionary *aDictionary = @{@"keyA : objectA, keyB : objectB, keyC : objectC};
```

## method 2:

```
NSDictionary *aDictionary = [NSDictionary dictionaryWithObjects:@[objectA,  
objectB, objectC] forKeys:@[keyA, keyB, keyC]];
```

# NSDictionary

- Get an **object** in dictionary by using a **key**

```
id object_get = [NSDictionary objectForKey: Key];
```