



# LearnToiOS

Delivered By:



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#LearnToiOS

Week 2

UIElements & View Layout

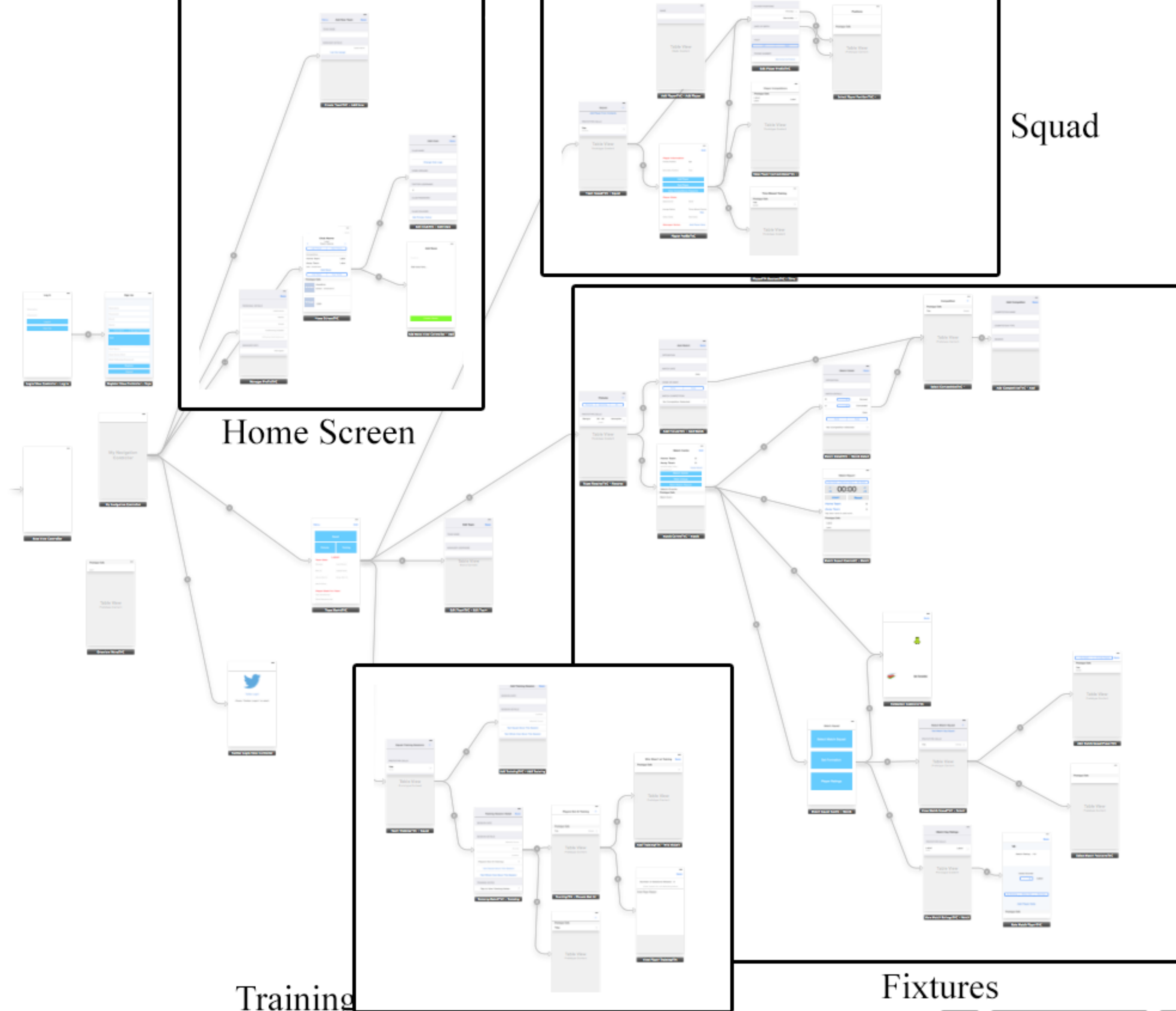
View Layout

# Interface Builder

Two Options

# Storyboards

- Storyboards are the latest addition to iOS Development
- A visual tool for laying out multiple views
- Can cause issues if not separated correctly
- An app can (and should have?) multiple Storyboards
- Beware of 1 massive Storyboard



# Xibs (Nib)

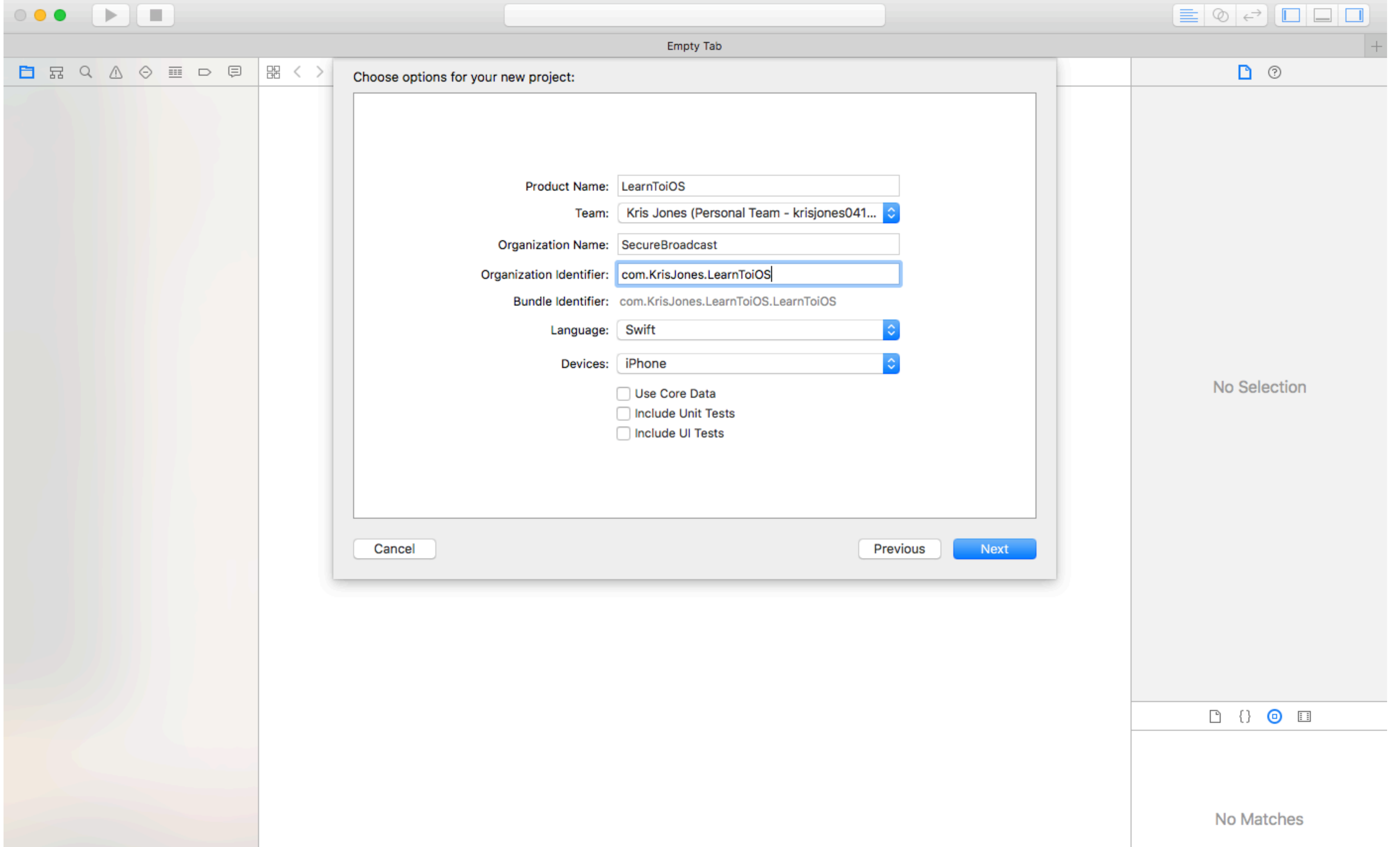
- Corresponds to a single view
- Much better for reuse
- Better when working in teams
- Ability to override init method to support Dependency Injection

# What to use

- Pick what suits your needs
- Both can and do work well together
- We will use Storyboards today
- For individual projects I'd recommend Storyboards (with caution)



Lets Create a new App





LearnToiOS



LearnToiOS



AppDelegate.swift



ViewController.swift



Main.storyboard



Assets.xcassets



LaunchScreen.storyboard

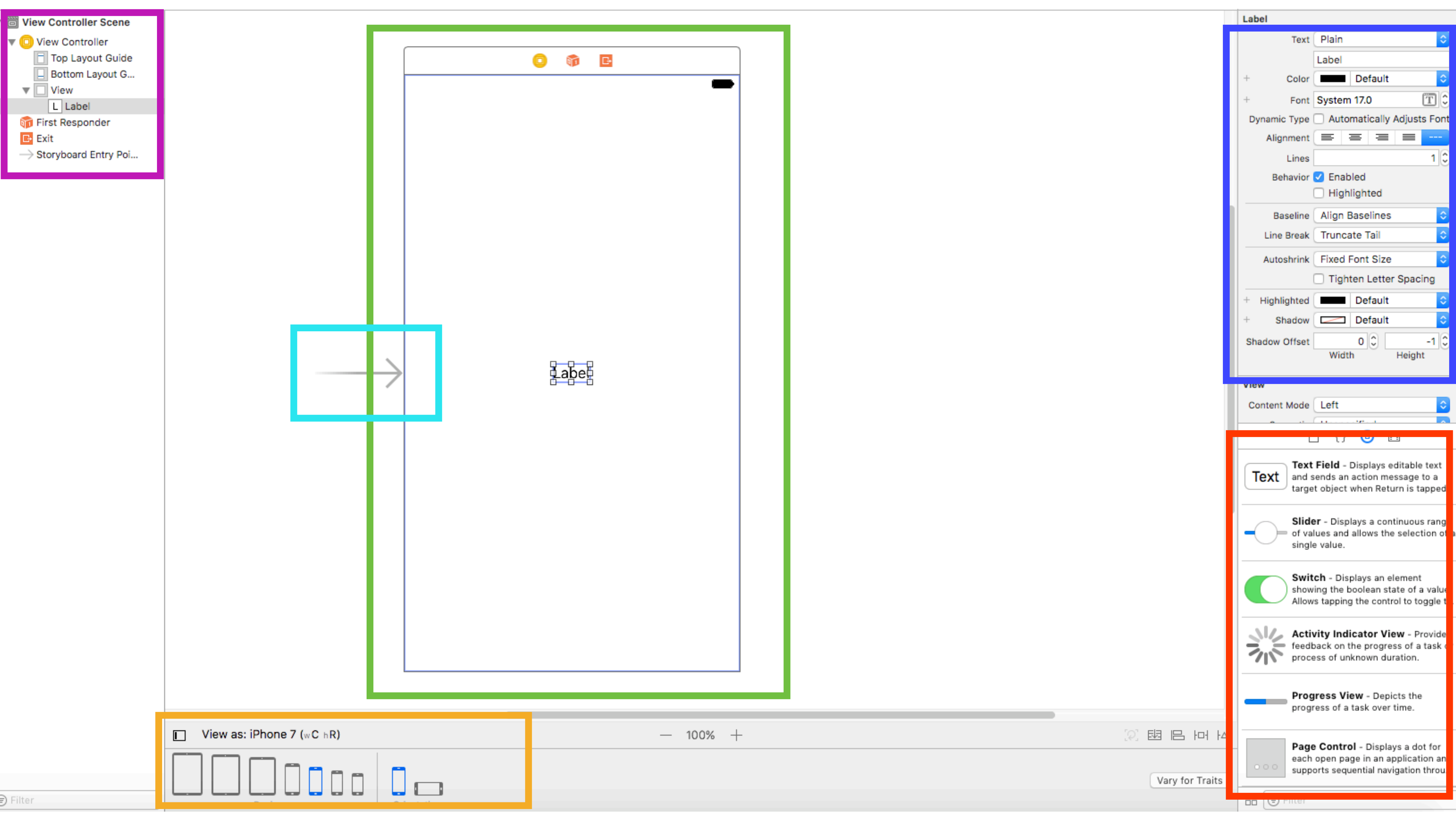


Info.plist



Products

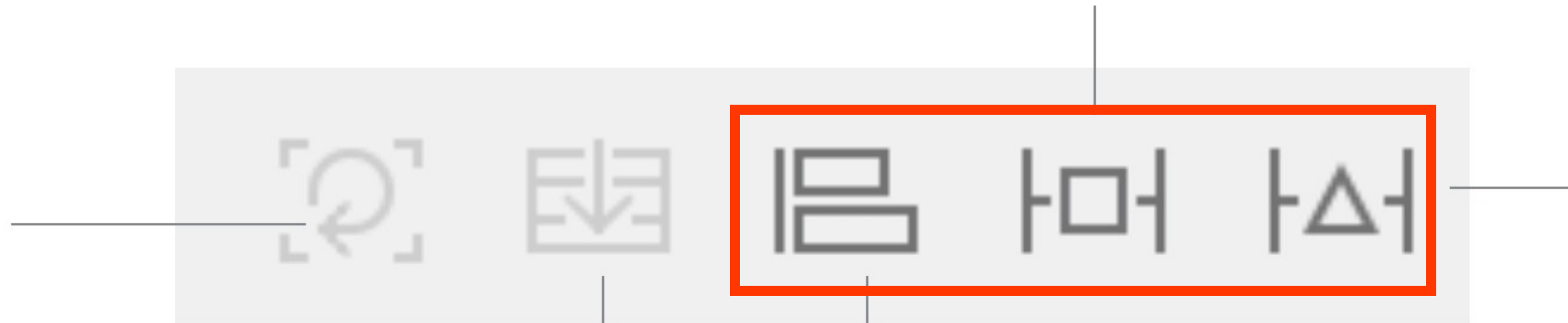
# Getting Started With Interface Builder and Constraints



# First Exercise

Centre a Label for all iPhone Sizes and  
orientations

Update  
frames



Add new  
constraints

Resolve  
auto layout  
issues

Embed  
in Stack

Align

# Centre a Label

1. Drag and drop a label into a view
2. Centre the Label in the view
3. Change device size & orientation and note that the label isn't centred
4. Add the correct constraints to centre the label



Structure View Controller

No Auto Layout Issues



Hello World

View as: iPhone 8 (w C h R)

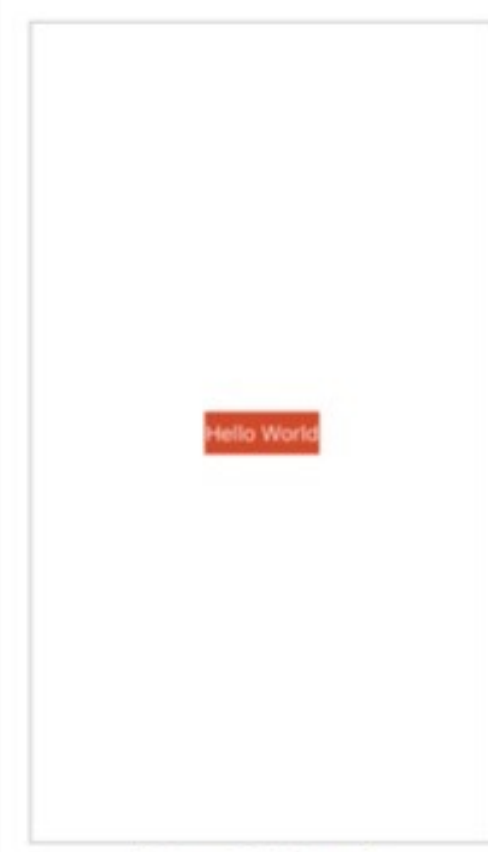
Device: [Icons of various iPhone models]

Orientation: [Portrait/Landscape icons]

Vary for Traits



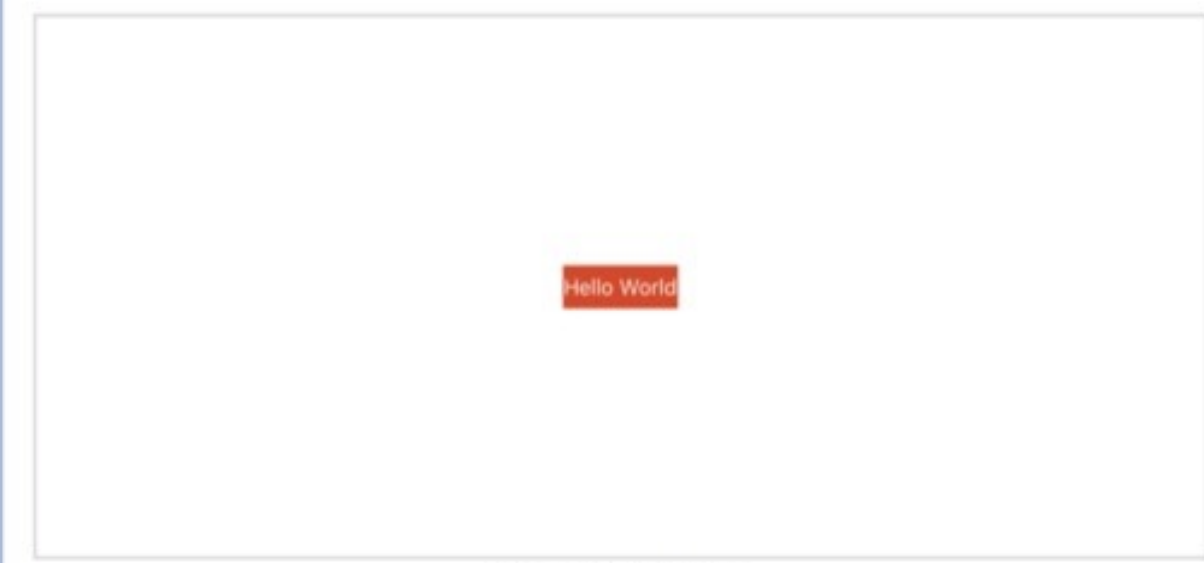
iPhone 8 | Portrait



iPhone SE | Portrait



iPhone 8 Plus | Portrait



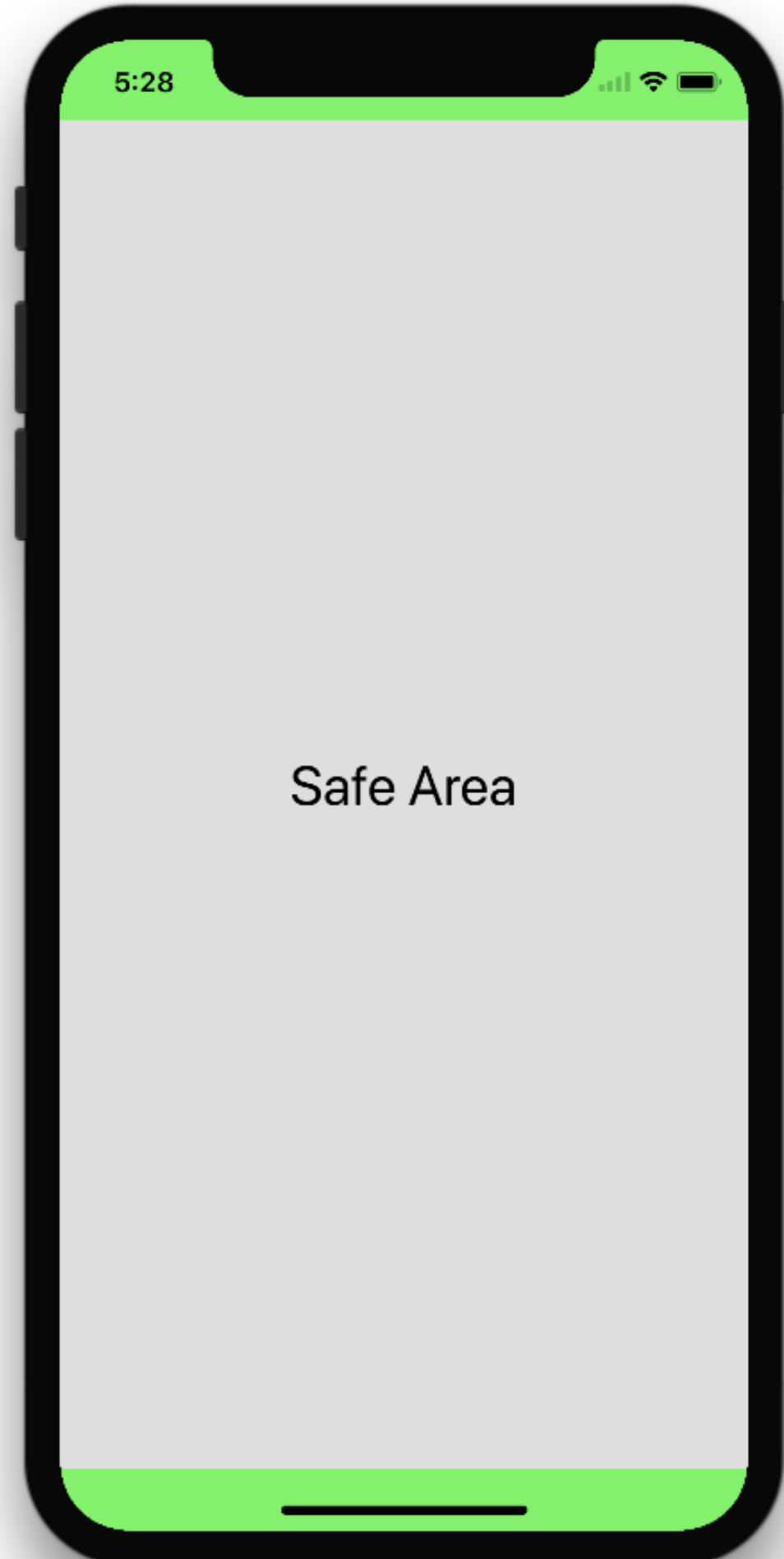
iPhone X | Landscape

Click the Rotate button to rotate the orientation

# The Safe Area



iPhone 8 - iOS 11.0



iPhone X - iOS 11.0

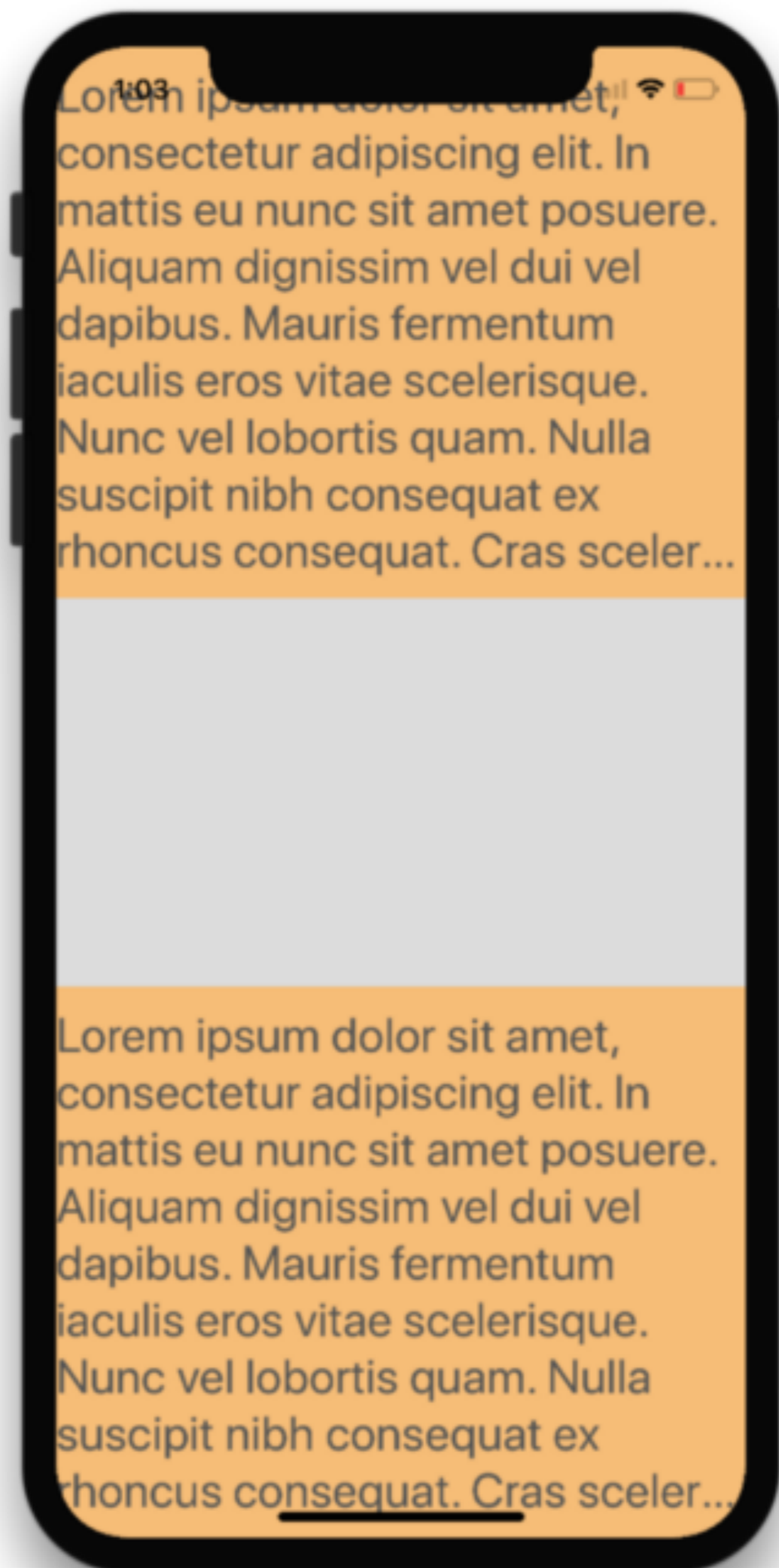


iPhone 8 - iOS 11.0

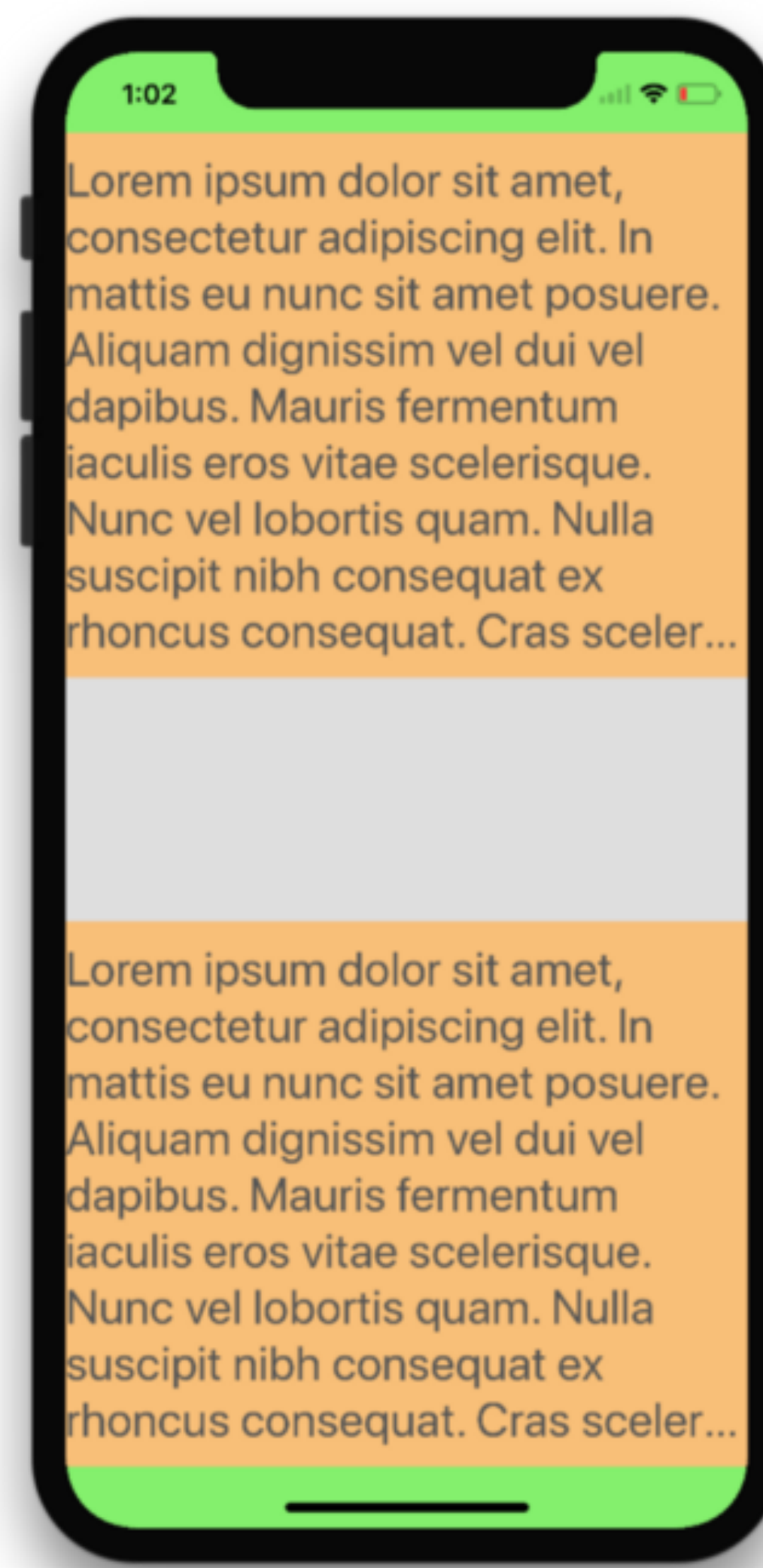


iPhone X - iOS 11.0

# The Safe Area



iPhone X - iOS 11.0



iPhone X - iOS 11.0

# Second Exercise

Add a view to your view controller with:

1. A background colour
2. Constrain it to the Top, Bottom, Leading and Trailing space of the **superview**.



### Add New Constraints

0

0 0

0

Spacing to nearest neighbor

☐ Constrain to margins

☐ Width 414

☐ Height 736

☐ Equal Widths

☐ Equal Heights

☐ Aspect Ratio

☐ Align Leading Edges

Add Constraints

### Horizontal Space Constraint

First Item View.Leading

Relation Equal

Second Item Superview.Leading

+ Constant 0

Priority 1000

Multiplier 1

Identifier Identifier

Placeholder ☐ Remove at build time

+ ☒ Installed

Add New Constraints

0

0

0

Spacing to nearest neighbor

☐ Constrain to margins

☐ Width

414

☐ Height

736

☐ Equal Widths

☐ Equal Heights

☐ Aspect Ratio

☐ Align

Leading Edges

Add Constraints

Horizontal Space Constraint

First Item

View.Leading

Relation

Equal

Second Item

Superview.Leading

+ Constant

0

Priority

1000

Multiplier

1

Identifier

Identifier

Placeholder

☐ Remove at build time

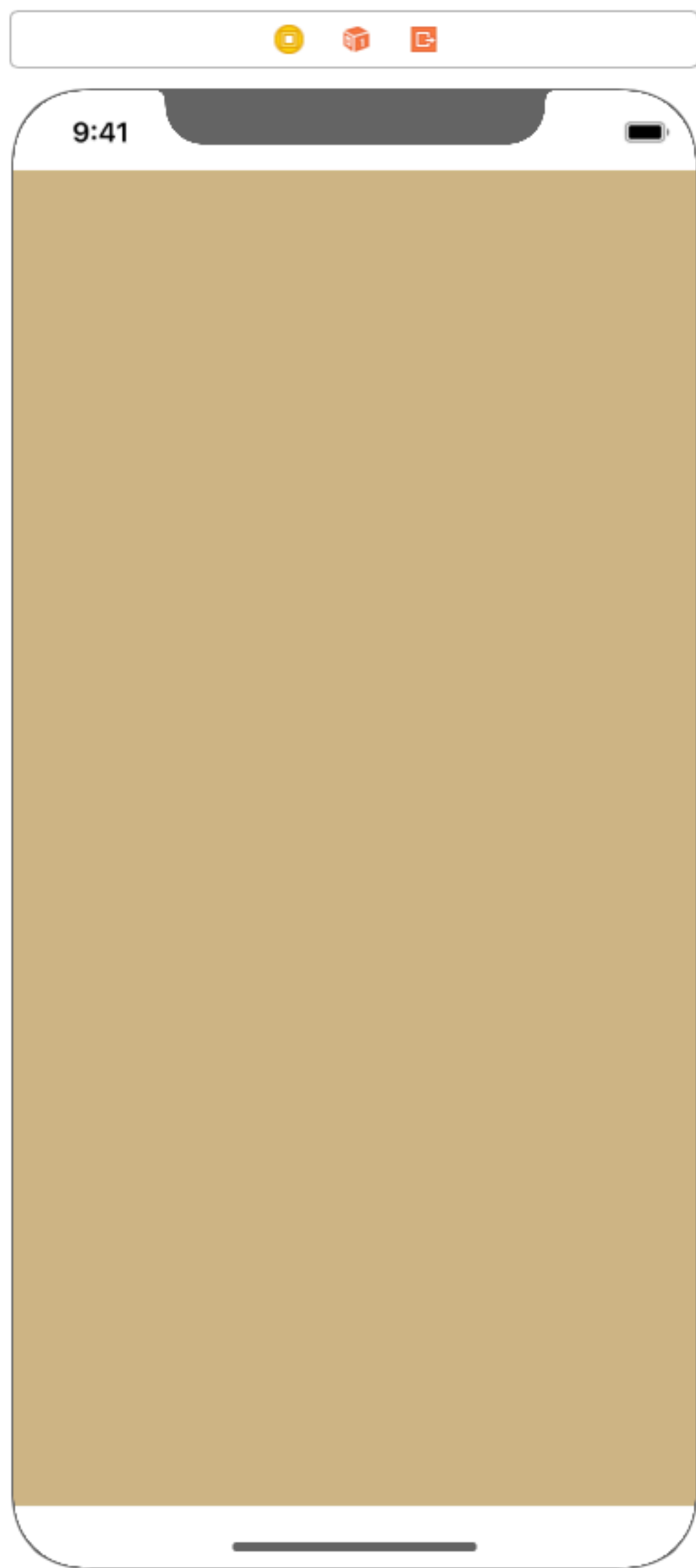
+ ☒ Installed



# Second Exercise

Now:

1. Add a new ViewController to the storyboard
2. Add a view with a background colour
3. Constrain it to the Top, Bottom, Leading and Trailing space of the Bottom Layout Guide (Safe Area).





# UIElements

- UITextField
- UILabel
- UIButton
- UISegmented Control
- UISlider
- UIStepper

This is a Text Field

Hello World, This is a Label

Tap Me

Option 1

Option 2



–

+

# Third Exercise

Create a registration form that will look correct on all iPhone devices, landscape and portrait

1. Drag and drop a UIViewController onto a storyboard
2. Drag and Drop a ScrollView into the View
3. Constrain the Scroll view to the top, bottom, leading and trailing space of the ViewController
4. Drag and drop each UIComponent onto the view
5. Layout the View and add your constraints

9:41 AM

## Register

Name

Email

Password

DOB

Day: 0 Month: 0 Year: 2018

— + — + — +

Recieve Email Notifications: ☒

Favourite Language

Swift Java C# Javascript

Save

# Fourth Exercise

Lets get the data from your form!

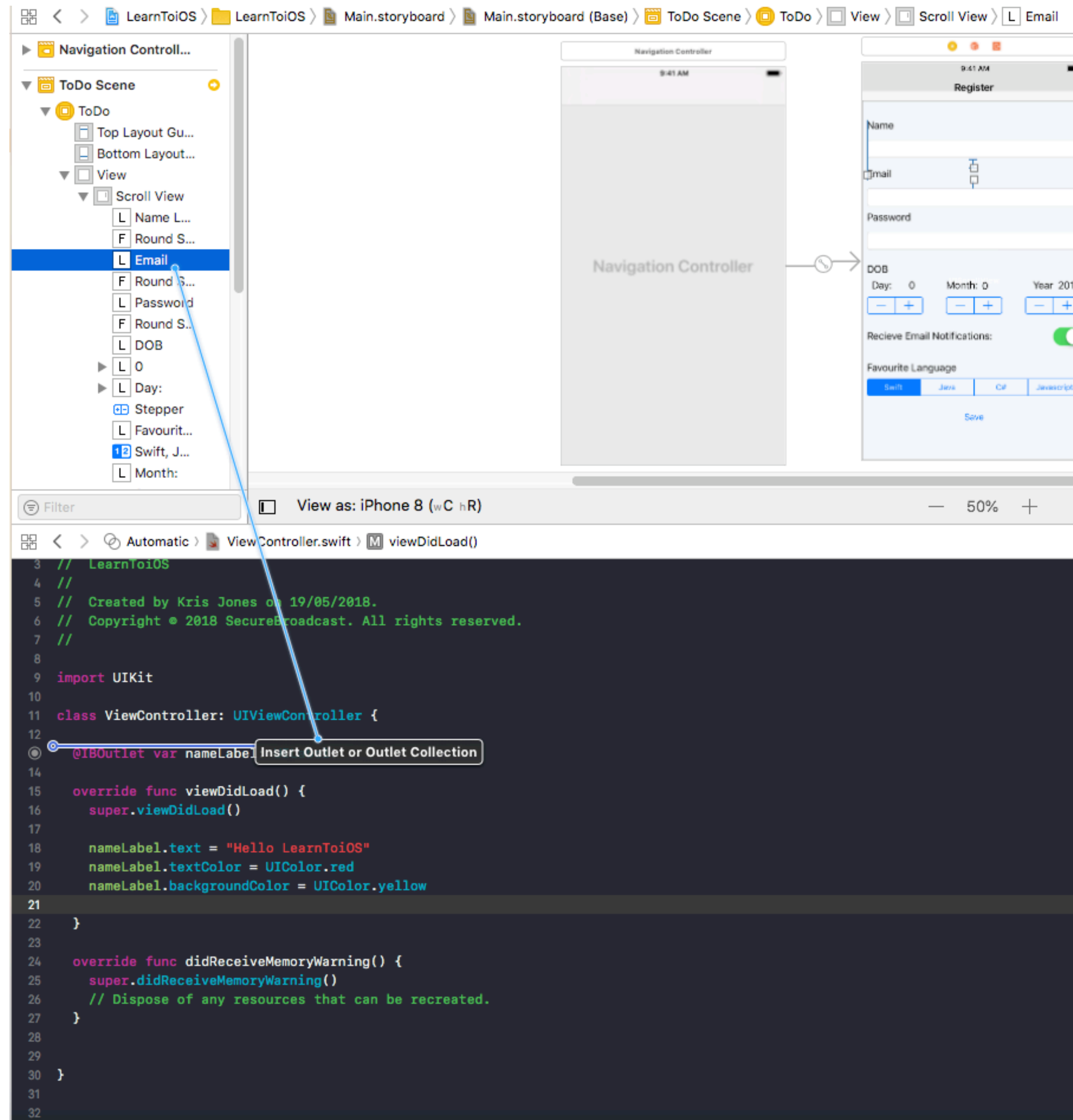
# Firstly, Lets create an IBOutlet

(The link between the Storyboard - the view and the ViewController - the code)

- Enter the split interface screen



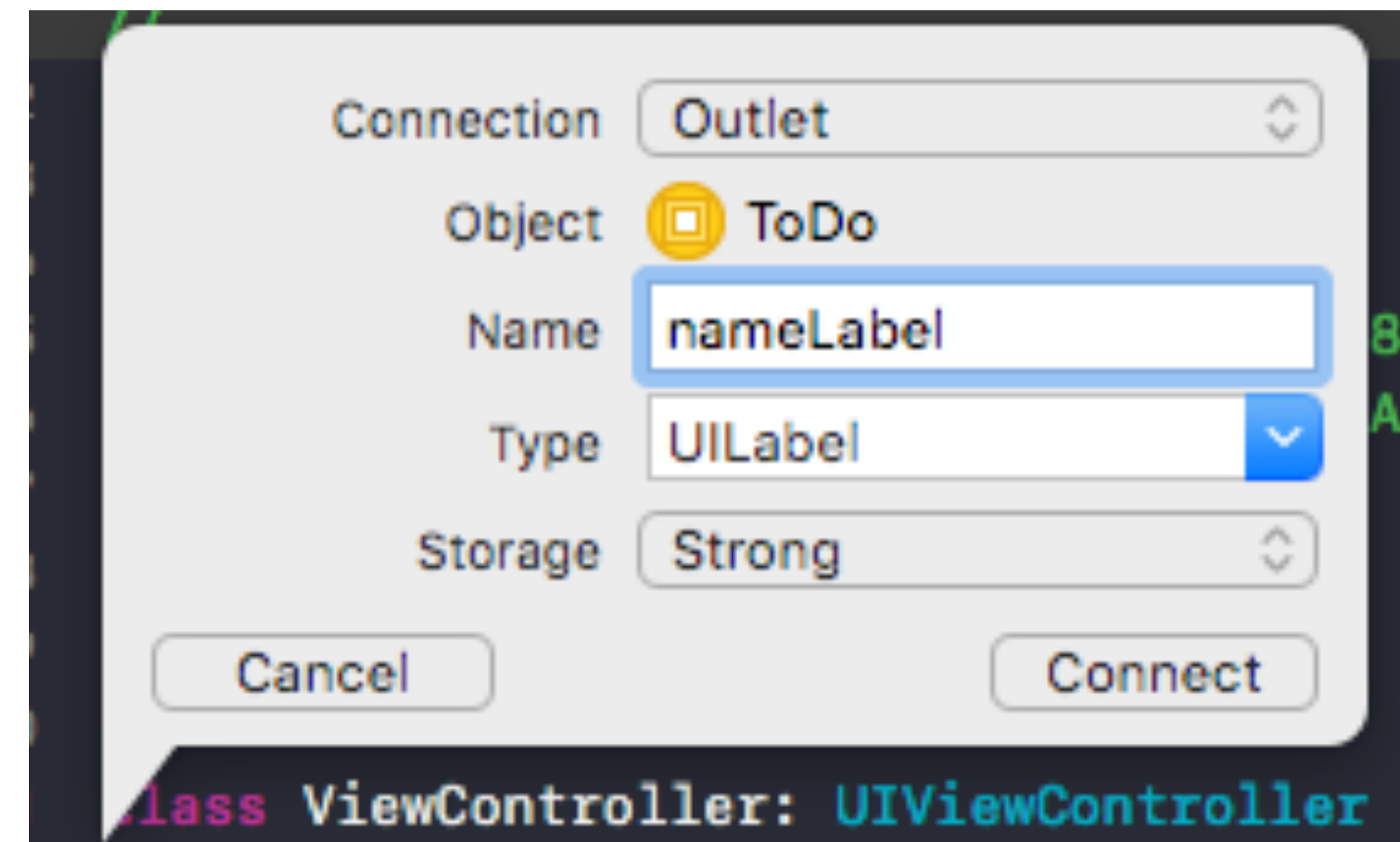
- Ensure the correct UIViewController is on the 2nd Screen
- Hold Control and Click a UILabel you want to hook up and drag this into the view controller.



4. Give your IBOutlet a name (Variable Name)

5. You can use your Label (see below)

```
nameLabel.text = "Hello LearnToiOS"  
nameLabel.textColor = UIColor.red  
nameLabel.backgroundColor = UIColor.yellow
```



```
@IBOutlet var nameLabel: UILabel!
```

# Now, Lets create an IBAction

(The link between a UIElements Action & Code)

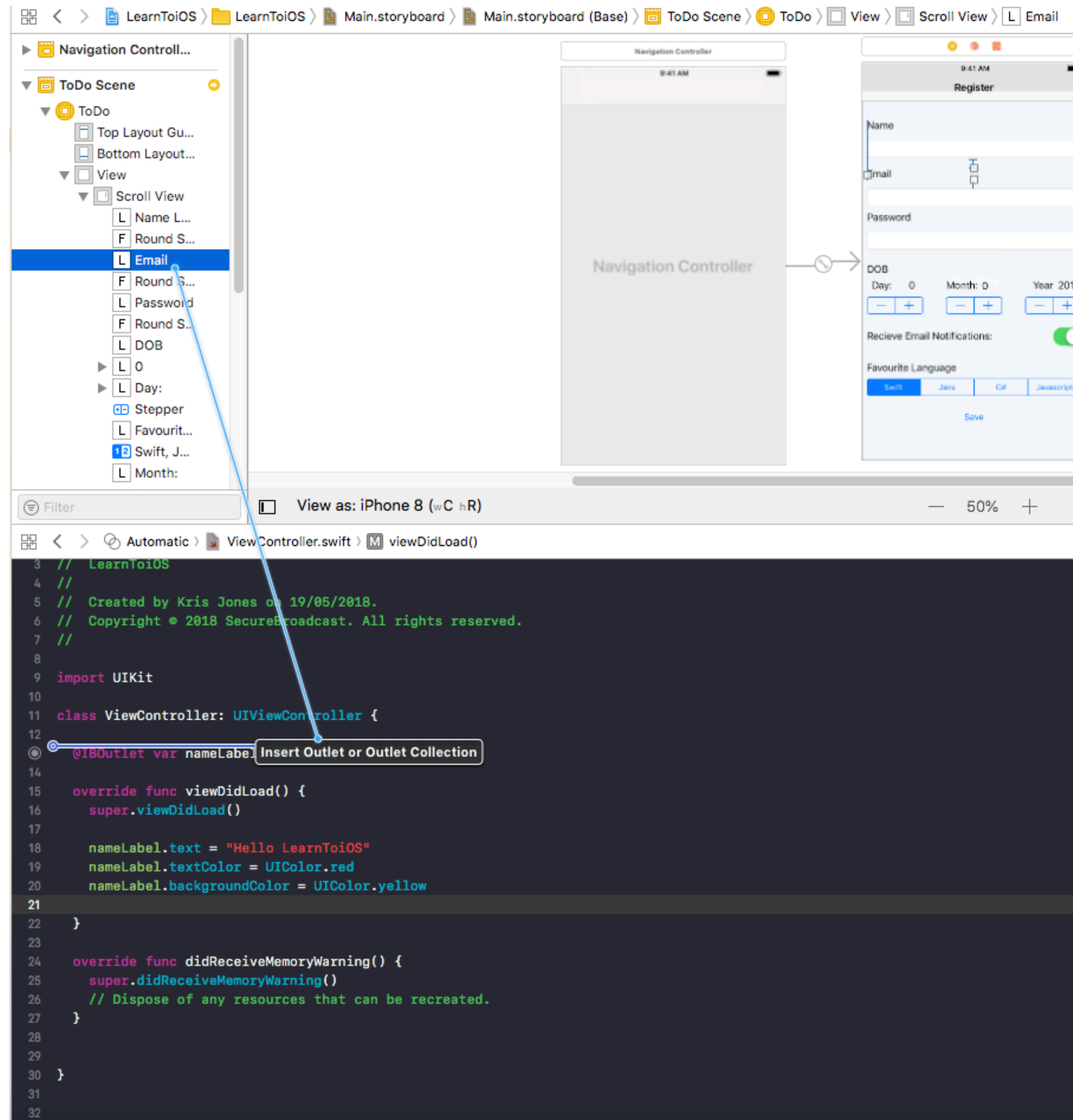


- Enter the split interface screen



- Ensure the correct UIViewController is on the 2nd Screen

- Hold Control and Click a UIButton you want to hook up and drag this into the view controller.

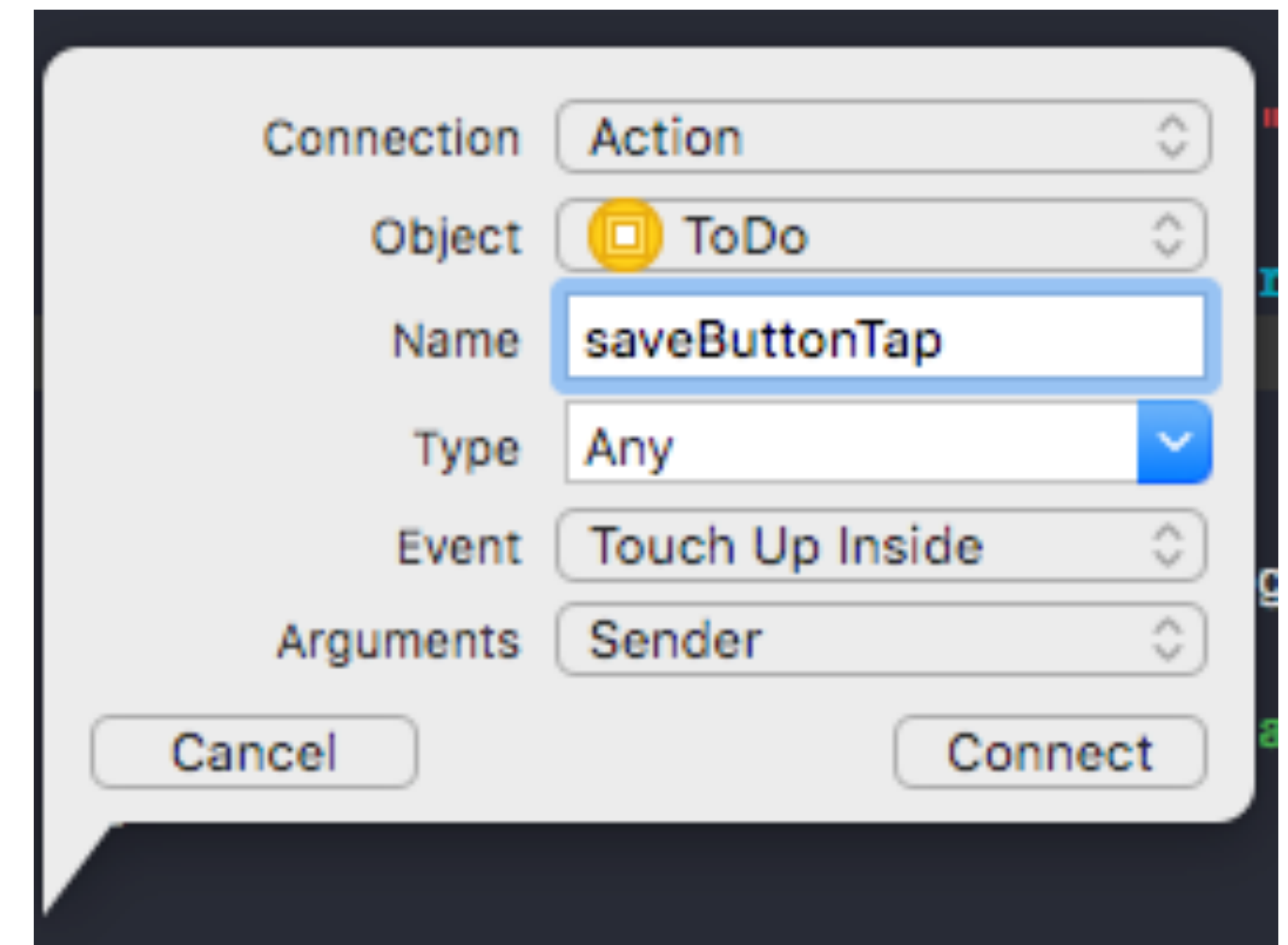
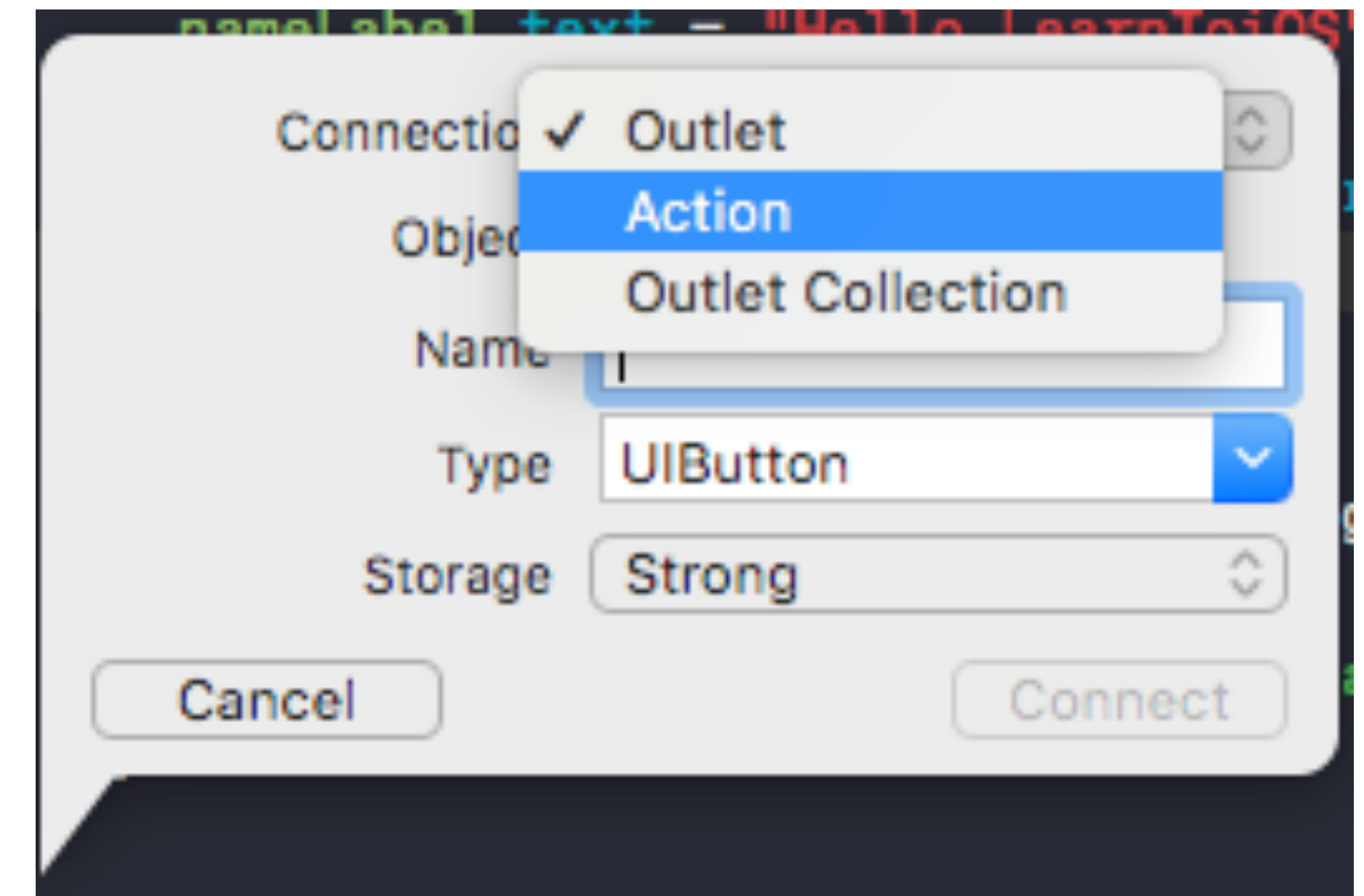


4. Change “Outlet” to “Action”

5. Give your button tap a method name

6. Add your code for the button tap

```
@IBAction func saveButtonTap(_ sender: Any) {  
    print("Save Button Tapped")  
}
```



# Fourth Exercise

1. Add a new ViewController (CMD + N)
2. Link the view in the Storyboard to the ViewController
3. Create the IBOutlets (links) between the ViewController and StoryBoard
4. Add Button Tap Action
5. On Save Tap print all the data from each field to the console.