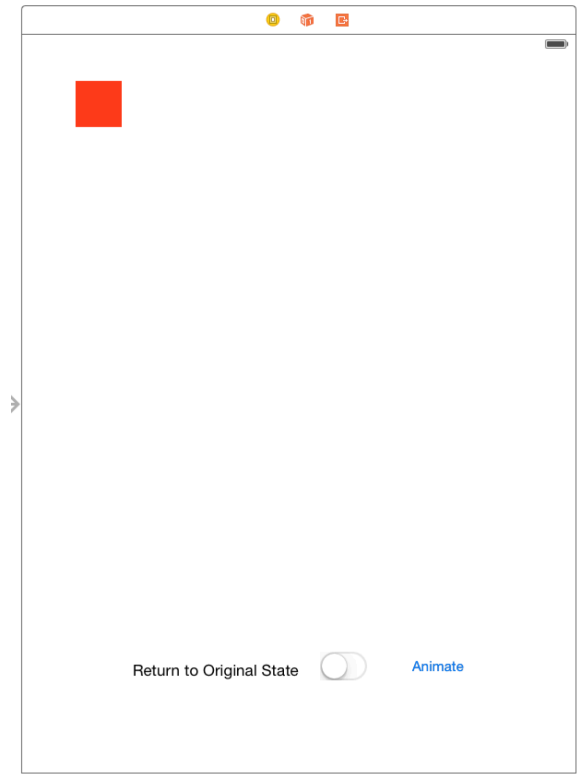
Simple Animation of UIView

This tutorial is on simple animation of UIView using the class methods:

- animateWithDuration(duration: NSTimeInterval, animations: () -> Void)
- animateWithDuration(duration: NSTimeInterval, animations: () -> Void), completion: ((Bool) -> Void)?)

The first method will leave the view at the final position when the animation ends. The second method will return the view at its original position using the completion closure.

A single view application will serve our purpose. A screen shot of the interface is shown below:



In this tutorial, we will animate the position, background color, and size of a UIView placed on the interface. A setting of a UISwitch will determine which method is to be used. Pressing the Animate button will start the animation.

We need an outlet for the UIView placed on the interface:

```swift
@IBOutlet weak var myView: UIView!
```

We also need to define the follow variables:

```swift
var completionOption = false
var originalCenter:CGPoint!
var originalBounds: CGRect!
var originalColor:UIColor!
```

The Bool variable completionOption is true if the switch is on and false if the switch is off. We initialize the switch in off position. So this variable is initialized to be false. The variable originalCenter is of a CGPoint type to store the initial value of the center of myView. Similarly, the variable originalBounds stores the initial value for the view's bounds and the originalColor stores the initial background color of the view. The best place to put this initialization is in the viewDidAppear function:

```swift
override func  viewDidAppear(animated: Bool) {
    originalCenter = myView.center
    originalBounds = myView.bounds
    originalColor = myView.backgroundColor
    myView.bounds = CGRectMake(0, 0, 50, 50)
}
```

The UISwitch is hooked to the following method:

```swift
@IBAction func changeCompletionOption(sender: AnyObject) {
    let option = sender as UISwitch
    if option.on {
        completionOption = true
    }
    else{
        completionOption = false
    }
    //Restore the center and background color to initial values
    myView.center = originalCenter
    myView.bounds = originalBounds
    myView.backgroundColor = originalColor

}
```

If the switch is on, the completionOption is set true. Otherwise it is set false. When the switch state is changed, it is necessary to restore myView to its initial state.

The following function contains the animation block using the first method without a completion block:

```
func simplAnimation(){

    UIView.animateWithDuration(2.0,  animations: {
        var center = self.myView.center
        //Shift view right without animation
        UIView.performWithoutAnimation({
            center.x += 200
            self.myView.center = center
        })
        center.y += 600
        self.myView.center = center
        self.myView.bounds = CGRectMake(0, 0, 100, 100)
        self.myView.backgroundColor = UIColor.blueColor()
    })
}
```

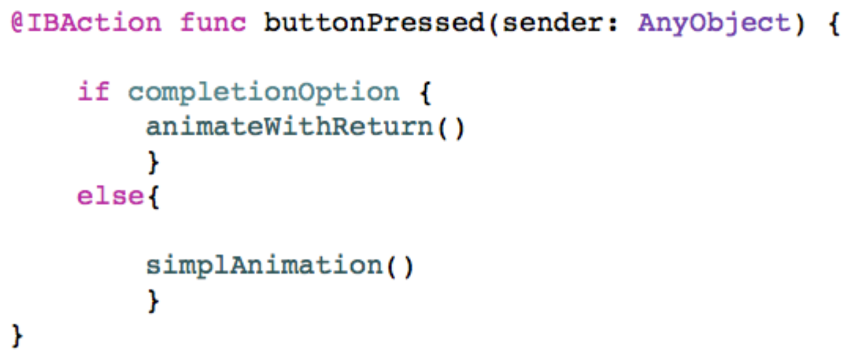
Inside the animation block, we have called the method performWithoutAnimation, which has a closure as a parameter. The code inside this method moves myView to the right by 200 points without animation. Instead of doing this, we could have placed the code in this method outside the animation block. Purpose of putting the change inside the animation block is to show how we can include code inside the animation that does not animate. When we call this function, the view will abruptly move to the right by 200 points and then animate down by 600 points with background color changing to blue.

The following function is called when we use a completion block to return the view to its initial state at the end of the animation:

```
func animateWithReturn(){
    UIView.animateWithDuration(5.0,animations: {
        var center = self.myView.center
        UIView.performWithoutAnimation({
            center.x += 200
            self.myView.center = center
        })
        center.y += 600
        self.myView.center = center
        self.myView.bounds = CGRectMake(0, 0, 100, 100)
        self.myView.backgroundColor = UIColor.greenColor()
        }, completion:{
            finished in
            self.myView.center = self.originalCenter
            self.myView.bounds = self.originalBounds
            self.myView.backgroundColor = self.originalColor
    })
}
```

At the end of the animation, the view will now be returned to its original position and background color of red.

We hook up the button (with title Animate) to the following method:



```
@IBAction func buttonPressed(sender: AnyObject) {

    if completionOption {
        animateWithReturn()
        }
    else{

        simplAnimation()
        }
}
```

When the button is pressed, the appropriate function will be called depending on the state of the switch.