### **Lab Exercise: Toggle button programatically in ios swift**

**Objective:**

Creating a lab exercise focused on using a UISwitch (toggle button) programmatically in iOS with Swift is an excellent way to understand how to handle simple on/off states in your app. Below is a step-by-step guide to setting up a simple project where a UISwitch changes the state of a UILabel.

import UIKit

class ViewController: UIViewController {

// UI Elements

let toggleSwitch = UISwitch()

let stateLabel = UILabel()

override func viewDidLoad() {

super.viewDidLoad()

view.backgroundColor = .white

setupUI()

}

func setupUI() {

// Configure Toggle Switch

toggleSwitch.isOn = false // Initial state is OFF

toggleSwitch.translatesAutoresizingMaskIntoConstraints = false

toggleSwitch.addTarget(self, action: #selector(switchToggled(\_:)), for: .valueChanged)

view.addSubview(toggleSwitch)

// Configure Label to Display Switch State

stateLabel.text = "Switch is OFF"

stateLabel.textAlignment = .center

stateLabel.translatesAutoresizingMaskIntoConstraints = false

view.addSubview(stateLabel)

// Set up constraints

NSLayoutConstraint.activate([

// Switch Constraints

toggleSwitch.centerXAnchor.constraint(equalTo: view.centerXAnchor),

toggleSwitch.centerYAnchor.constraint(equalTo: view.centerYAnchor),

// Label Constraints

stateLabel.centerXAnchor.constraint(equalTo: view.centerXAnchor),

stateLabel.topAnchor.constraint(equalTo: toggleSwitch.bottomAnchor, constant: 20),

stateLabel.widthAnchor.constraint(equalToConstant: 200),

stateLabel.heightAnchor.constraint(equalToConstant: 40)

])

}

@objc func switchToggled(\_ sender: UISwitch) {

if sender.isOn {

stateLabel.text = "Switch is ON"

} else {

stateLabel.text = "Switch is OFF"

}

}

}