

Institute of Vocation Education Information Technology Discipline

ITP4207 - Emerging Technology of Mobile Computing Lab 1 - Swift & Xcode Revision

Description:

Create a BMI calculating app using Swift 3.x

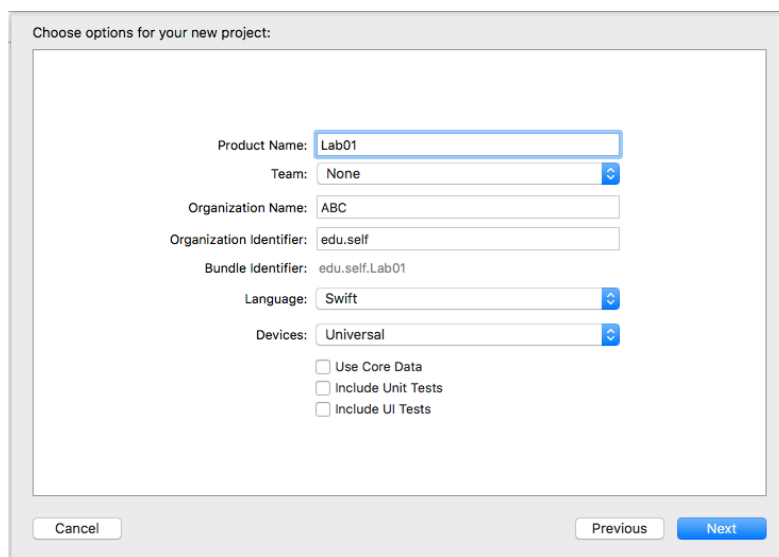
Learning Outcome:

After completing this exercise, students should be able to 1.) create iOS app with basic Swift syntax

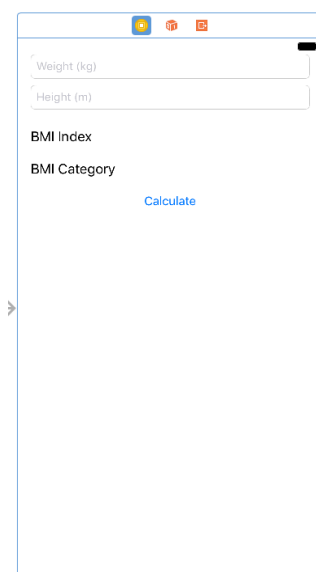
Task 1

Create Project

1. Create an iOS single view project, name: Lab01, company Identifier: edu.self. Don't forget setting the language to **Swift**.

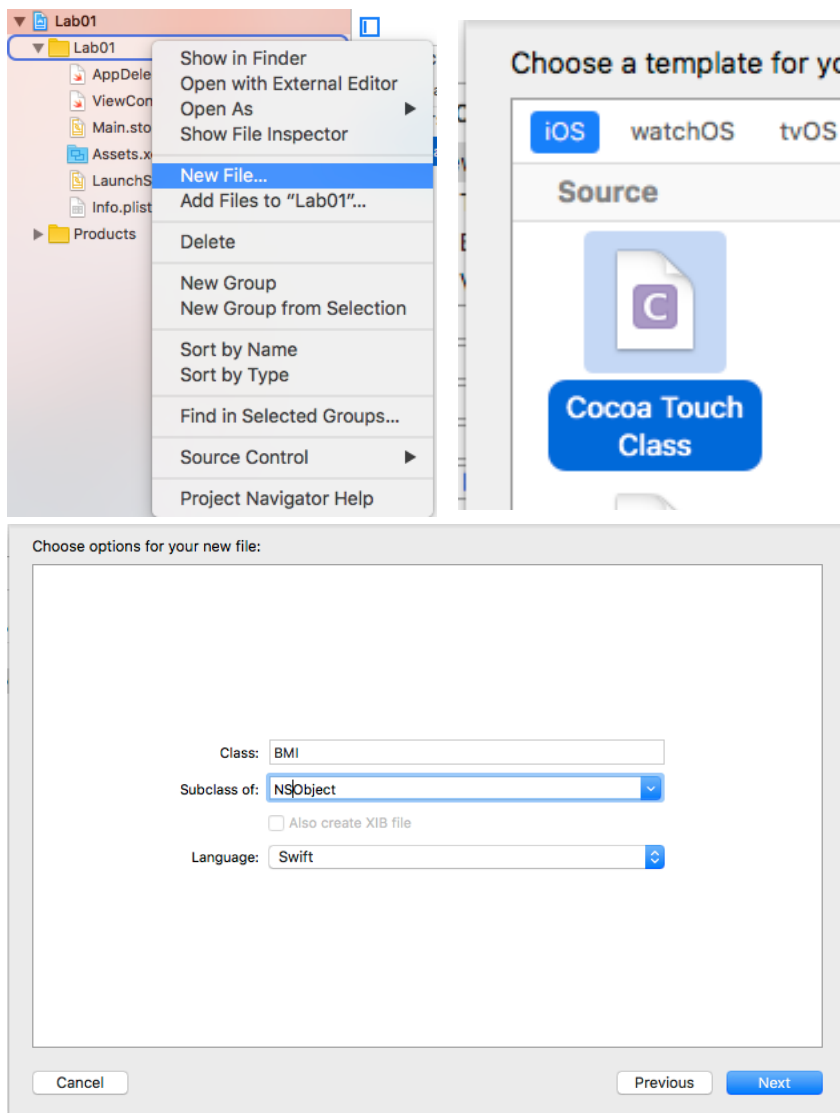


2. Go to the main storyboard, and create the UI as follow:



There are 2 TextFields, 2 Labels and 1 Button

3. Create a new **Cocoa Touch Class** named **BMI** which is a subclass of **NSObject**. Don't forget to set the language to **Swift**.



4. In **BMI.swift** Define the property of the BMI class

```
//properties
var heightInM : Double
var weightInKG : Double
```

5. You will find that you will also need to create a constructor as the properties are not nil.

```
init(heightInM: Double, weightInKG: Double){
    self.heightInM = heightInM;
    self.weightInKG = weightInKG;
}
```

6. Define getBMI() and getBMICategory function

```
//Return a BMI Index
func getBMI() -> Double {
    return self.weightInKG / (self.heightInM * self.heightInM);
}

//Return a String
func getBMICategory(bmi : Double) -> String {
    let bmiIndex = bmi
    //if statement, you may use ( ) or not to use ( )
    if bmiIndex < 18.5 {
        return "Underweight"
    } else if bmiIndex >= 18.5 && bmiIndex <= 24.9 {
        return "Normal weight"
    } else if bmiIndex >= 25 && bmiIndex <= 29.9 {
        return "Overweight"
    } else {
        return "Obesity"
    }
}
```

7. Go back to ViewController.swift, define the properties

```
//The BMI Object
var bmi : BMI?

//IBOutlet must be in optional value. see the different of using ? and !
@IBOutlet var weightTF: UITextField?
@IBOutlet var heightTF: UITextField!

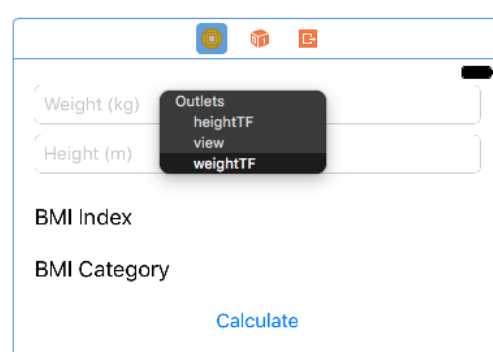
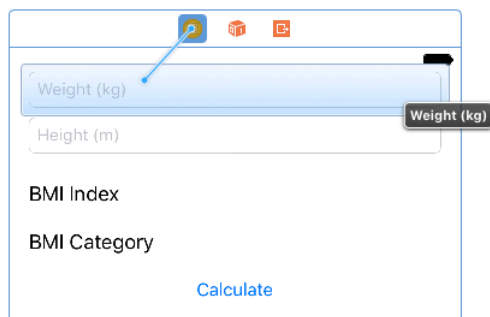
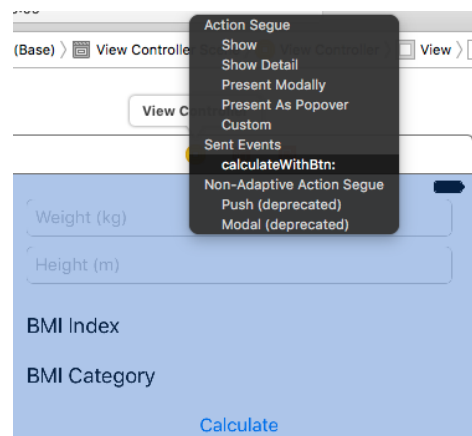
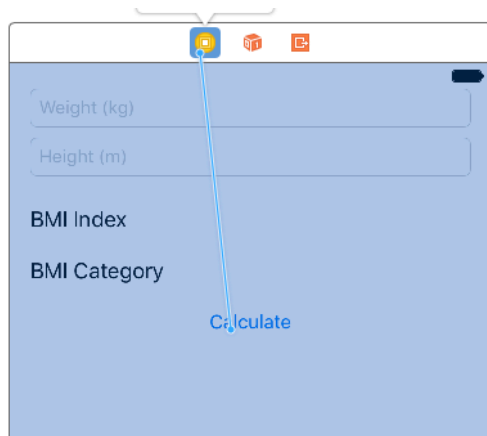
@IBOutlet var bmiIndexLabel : UILabel?
@IBOutlet var bmiCategoryLabel : UILabel!
```

8. Implement the calculate function

```
@IBAction func calculate (btn : UIButton){
    //weightTF needs ! to unwrap
    //cast to double from string need unwrap
    //text property of textfield is optional value, must be unwrapped
    let weight = Double(self.weightTF!.text!)!
    let height = Double(self.heightTF.text!)!
    bmi = BMI(heightInM: height, weightInKG: weight)

    //convert double to string
    self.bmiIndexLabel?.text = "\(bmi!.getBMI())"
    self.bmiCategoryLabel.text = bmi!.getBMICategory(bmi: bmi!.getBMI())
}
```

9. Link the IBOutlet & IBAction (by using right-click -> drag / ctrl + left click -> drag)



Submission

Hand-in the project in *.zip format and submit it to your Lecturer/Moodle.