

## 6COSC021W Lab-Based Practical Exam – Specification

**Time Allotted:** 2 hours. You will receive reminders at 1 hour, 30 minutes, and 15 minutes remaining.

### Before Starting the Assessment:

1. Download the project template from Blackboard.
2. Build and Run the project to confirm there are no errors or build issues.
3. Inspect the Starter Project: Review the structure and comments that outline where you'll need to implement specific code. Familiarize yourself with the structure and requirements before starting.
4. Ask Questions: If any part of the brief is unclear, ask for clarification before the coding period begins.
5. Disable AirDrop and avoid using AI tools like ChatGPT or similar.
6. Access Apple Developer Documentation if needed by navigating in:  
Xcode > Window > Developer Documentation

### App Overview

Create an app to help users quickly split bills among friends, making it ideal for group dinners, trips, or outings. Users should be able to input the total amount, tip, and number of people, and the app will calculate the amount each person should pay.

The app will consist of two screens **calculator view** and **expense view**.

### Calculator View Requirements

1. Input Fields:
  - Provide 3 text fields for users to enter:
  - Total Amount (e.g., cost of the bill)
  - Tip Amount
  - Number of People
2. Calculation Process:
  - When the Calculate button is pressed:
  - Validate User Input: Ensure each field is filled with valid values before calculating.
  - Compute Split Amount: Calculate the total cost per person, considering the tip.
3. Display Result:
  - After calculation, display an alert showing:
  - The total amount (including the tip)

- The split amount per person
4. Alert Actions:
    - Save to Expenses Record: If chosen, add the calculated split amount to the user's total expenses.
    - Example: If the user splits a lunch bill and chooses to save the split amount, it should be added to the total expenses.
    - Cancel: Dismiss the alert and clear the input fields.

### **Expenses View Requirements**

1. Display Total Expenses:
  - Show the user's accumulated expenses based on previous entries saved from the Calculator View.
2. Reset Functionality:
  - Include a Reset Button to clear the total expenses, allowing the user to start over.

### **Design and User Interface**

Create a visually appealing and user-friendly interface for each view, focusing on intuitive navigation and clear input fields.

Please see the given app recording for your reference, which demonstrates the expected functionality and user experience.

### **Marking Criteria**

Your assessment will be evaluated as follows:

1. **Creative User Interface:** 50 points
  - Create **Calculator** and **Expenses** tabs – 10
  - Add **text fields** for user inputs – 10
  - Display expenses information on the **Expenses** tab – 10
  - Show an alert on the **Calculate** button click – 10
  - Ensure quality and creativity in UI design and user experience - 10
2. **Business Logic for Split Calculation:** 25 points
  - Correctly implementing the calculation for the split amount – 15
  - Handle invalid inputs and other potential user errors - 10
3. **Persistent Expenses Logic:** 15 points

- Implement the alert with options to save or cancel and correctly updating the total expenses – 10
- Implement reset button functionality - 5

4. **Viva/Oral Explanation:** 10 points

- Ability to explain your code and logic during the viva

**Note: Projects that do not compile will receive a score of 0.**

Good luck!