

# Project Report: C Attendance Companion

## Introduction

The "[C Attendance Companion](https://github.com/junaaaak/C-Attendance-Companion-Code/releases/tag/C)" project is a C program designed to assist students in monitoring and managing their attendance for multiple subjects. The program allows students to input attendance data for each subject, calculate attendance percentages, and determine the number of classes required to meet specific attendance goals. This report provides an overview of the program, its functionality, program flow, use cases, and the significance of the project.

## GitHub Code:

<https://github.com/junaaaak/C-Attendance-Companion-Code/releases/tag/C>

## Program Flow

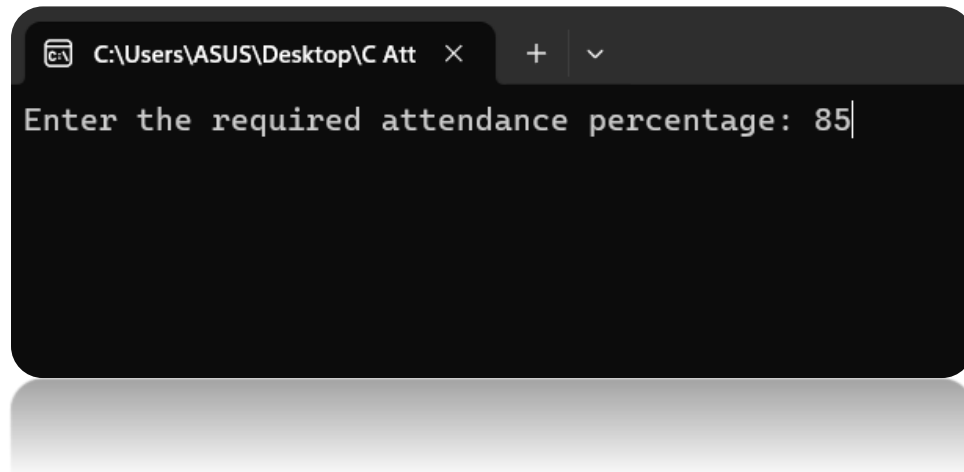
The program's flow can be divided into the following key components:

### 1. Initialization

- The program starts by defining a structure called **Subject**, which stores information about each subject, including its name, total classes conducted, classes attended, and attendance percentage.
- Constants like **MAX\_SUBJECTS** are set, and variables for storing overall attendance information are initialized.

### 2. Input Data

- The program begins by requesting the required attendance percentage for all subjects and the number of subjects from the user.



- It then enters a loop to input attendance data for each subject. Users provide information for each subject, including the subject's name, total classes conducted, and classes attended.

```

C:\Users\ASUS\Desktop\C Att
Enter the required attendance percentage: 85
Enter the number of subjects: 3
Subject 1:
Enter the name of the subject: Maths
Enter total number of classes conducted: 23
Enter the number of classes you have attended: 15
Subject 2:
Enter the name of the subject: English
Enter total number of classes conducted: 18
Enter the number of classes you have attended: 17
Subject 3:
Enter the name of the subject: Python
Enter total number of classes conducted: 33
Enter the number of classes you have attended: 21

```

- The initial attendance percentage for each subject is calculated.

### 3. Menu System

- After inputting data, the program enters a menu system with various options:
  - **Option 1:** Calculate and display the attendance percentage for a specific subject.
  - **Option 2:** Calculate and display the required classes to meet the attendance percentage for a specific subject.
  - **Option 3:** Calculate and display the overall attendance percentage for all subjects.
  - **Option 4:** Calculate and display the overall classes required to meet the required percentage for all subjects.
  - **Option 5:** Exit the program.

```
Attendance Companion Menu:
1. Calculate Attendance Percentage for a Subject
2. Calculate Required Classes to Meet Percentage for a Subject
3. Calculate Overall Attendance Percentage
4. Calculate Overall Classes Required
5. Exit
Enter your choice: |
```

#### 4. Program Logic

- Depending on the user's choice, the program performs the corresponding action.
  - For instance, if the user selects option 1, the program asks for the subject index, validates it, and then displays the current attendance percentage for that subject.
  - Option 2 calculates and displays the required classes to meet the desired percentage.
  - Options 3 and 4 provide an overall view of attendance percentages and the classes required to meet the required percentage for all subjects.
  - Invalid inputs are handled with appropriate error messages.

#### 5. Conclusion

- The program continues to operate until the user chooses to exit.
- Upon exiting, the program displays a goodbye message and terminates.

### Significance

The "C Attendance Companion" project is a valuable tool for students to efficiently manage their attendance. It empowers students with the following advantages:

- **Individual Subject Monitoring:** The program enables students to monitor attendance for each subject separately, helping them identify subjects with low attendance.
- **Goal-Oriented Attendance Improvement:** Students can make informed decisions about attending additional classes to meet required attendance percentages for specific subjects.
- **Overall Attendance Analysis:** The program calculates and displays the overall attendance percentage for multiple subjects, providing a comprehensive view of academic progress.

- **Simplified Attendance Management:** By automating attendance calculations, the project streamlines attendance management, reducing the need for manual calculations and minimizing errors.

## **Conclusion**

The "C Attendance Companion" project is a versatile tool for students seeking to maintain good attendance across their various subjects. It serves as a reliable companion for academic success, aiding students in achieving their educational goals.

This program provides a user-friendly interface and can be easily extended to accommodate more subjects if needed, making it a practical and flexible solution for students.