

# Hostel Mess Management System (C++)

## Project Overview

This project is a **Hostel Mess Management System** developed in **C++**.

It is a **semester project** for the course **Fundamentals of Programming with C++** at **University of Gujrat**.

The main purpose of this project is to manage hostel mess records in a simple and efficient way.

It helps to store student data, update meals, calculate mess bills, and save records in a file.

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## Objectives of the Project

- To understand **basic concepts of C++**
  - To practice **arrays, functions, loops, and conditions**
  - To learn **file handling (reading and writing files)**
  - To create a **menu-driven program**
  - To build logical thinking for real-life problems
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## Features of the System

- Add new student record
- Display all students
- Update meals of a student
- Delete a student record
- Calculate individual mess bill
- Calculate total mess income

- Save data in a file
  - Load data from file automatically on program start
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## Technologies Used

- Programming Language: **C++**
  - Compiler: **Any C++ Compiler (Dev-C++, Code::Blocks, Visual Studio, etc.)**
  - File Handling: **fstream**
  - Concepts Used:
    - Arrays
    - Functions
    - Loops
    - If-else statements
    - File handling
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## File Description

- **main.cpp** → Contains the complete source code of the project
  - **mess.txt** → Stores student records (auto created after saving data)
  - **README.md** → Project explanation and details
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## How to Run the Project

1. Open the project in a C++ compiler
  2. Compile the program
  3. Run the executable file
  4. Choose options from the menu:
    - Add Student
    - Display Students
    - Update Meals
    - Delete Record
    - Calculate Bill
    - Save & Exit
- 



## Menu Options Explained

1. **Add Student**  
Enter roll number, name, and meals taken.
2. **Display All Students**  
Shows all stored student records.
3. **Update Student Meals**  
Change the number of meals for a student using roll number.
4. **Delete Student Record**  
Remove a student record from the system.
5. **Calculate Mess Bill**  
Shows bill for each student and total mess income.
6. **Save & Exit**  
Saves all data into a file and exits the program.

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## Group Members

This project is developed by a **group of three students**:

- Leader: M Umar Roll No. 052
  - Leader: Bisma Amjad Roll No. 006
  - Leader: Bilal Adnan Roll No. 128
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## University Information

- **University:** University of Gujrat
  - **Course:** Fundamentals of Programming with C++
  - **Semester Project**
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## Conclusion

This project helped us understand the **basic fundamentals of C++ programming**. It improved our skills in **problem solving, logic building, and file handling**. The Hostel Mess Management System is a simple but useful program for managing student mess records.

# Screens

## Menu



E:\pf mini project\final project.exe

```
===== HOSTEL MESS MANAGEMENT =====
1. Add Student
2. Display All Students
3. Update Student Meals
4. Delete Student Record
5. Calculate Mess Bill
6. Save & Exit
Enter your choice:
```

## Add student

```
Enter your choice: 1
Enter Roll No: 52
Enter Name: umar
Enter Meals Taken: 25
Student added successfully!
```

```
Enter your choice: 1
Enter Roll No: 128
Enter Name: bilal
Enter Meals Taken: 20
Student added successfully!
```

## Display all student

```
Enter your choice: 2
RollNo  Name    Meals
128    bilal   20
52     umar   25
```

## Update student meals

```
Enter your choice: 3
Enter Roll No to update meals: 128
Enter new meal count: 30
Meals updated successfully!
```

## Delete student record

```
Enter your choice: 4
Enter Roll No to delete record: 52
Student record deleted successfully!
```

## Calculate Mess Bill

```
--- Mess Bill Details ---
Roll No: 128 | Name: bilal | Bill: Rs 4500
Total Mess Income: Rs 4500
```

## Save and Exit