

DEPARTMENT OF INFORMATION ENGINEERING TECHNOLOGY

SUBJECT: OBJECT ORIENTED PROGRAMMING

○ **Make a class naming management for all calculations**

There are four hostels(3 boys and a girls) under the manager. Each of this hostel has :

- Separate hostel mess system.
- One cook for kitchen.
- Four sweepers.
- Five guards.
- One serving boy.

○ **Management has five subclasses salary, hostel 1, 2, 3 and girls hostel.**

Enter the number of students in each hostel and save their credentials meaning name, roll number and ID card number in four different files namely hostel 1, hostel 2, hostel 3 and girls hostel.

Minimum residents are 200 per hostel.

○ **Each sub class(eg hostel1) has further sub classes naming mess, guests, clothes and security system**

Subclass mess:

Mess menu should be designed according to the user for the whole month.

Mess system serves two times to students who are willing to eat.

There should be files naming mess1, mess2, mess3 and mess4 which has record of last thirty days of all the students. Data in the files are altered on the end of each day. eg(Mess1 will be the mess file for hostel1. There are two entries per day done by two members breakfast and dinner) **Subclass Guests:**

Three guests are allowed for each student and every student has guests two days per month (mandatory).

Students should tell management of guests one day earlier.

Make another file which shows guess list of each student and there total bill of mess of their guests.

eg(Guest list for hostel1 will be named guest1. Entries are done through members ID and use function guest_total for making total for each student.)

Subclass Clothes:

There is a private cloth management system which cost Rs.5/piece for ironing and 12 /piece for washing.

15% for each clothing piece goes to hostel management.

Every student uses this facility at least once a week.

A file is created for the total money gathered from washing and ironing and hostels share in it.

eg(for hostel1 file name will be clothes1 and wash and iron are two members of this subclass.)

Subclass Security system:

Make a file for guest id card numbers for each student of the whole month.

Make another file for night day shifts of four guards and one chief in control room. Make a file for the extra curricular activities which includes trip per weekend and bonfire once a month.

Make another file for the lost found items for all the students. In this file every item of hostel lost is fined as per requirement like lost key should be fined with 100 rupees.

eg(for security1 file names are guestid, guardshift and LFitems) **Subclass**

Salary:

Make another file which includes the salaries of the following people.

- Manager 25k,
- Guard 15k,
- Cook 15k,
- Sweeper 10k,
- Serving boy 5k. These salaries should be adjusted from the bill of the

students.

Class management:

Every student at the end of the month total bill for each student should be calculated as follows:

- Mess
- Guest mess
- Lost/found fine

A file should be created which has separate salary and hostel profit.

Create a way to show the total dues of any student whose idcard no. is entered.

Solution Output:

Student Management System (Boy Hostel 1)

If the user selects 1 in the Boy Hostel 1 submenu:

```
css                                                                    Copy code

=====

                        STUDENT MANAGEMENT SYSTEM

=====

--- >> Press 1 to Add Student
--- >> Press 2 to View Students
--- >> Press 3 to Update Student
--- >> Press 4 to Delete Student
--- >> Press 9 to Return to Previous Menu
```

Mess Management System (Boy Hostel 1)

If the user selects 2 in the Boy Hostel 1 submenu:

```
sql                                                                    Copy code

=====

                        MESS MANAGEMENT SYSTEM

=====

--- >> Press 1 to Add Mess Record
--- >> Press 2 to View Mess Records
--- >> Press 3 to Update Mess Record
--- >> Press 4 to Delete Mess Record
--- >> Press 9 to Return to Previous Menu
```

Guests Management System (Boy Hostel 1)

If the user selects 3 in the Boy Hostel 1 submenu:

```
css                                                                    Copy code

=====
                                GUESTS MANAGEMENT SYSTEM
=====

--- >> Press 1 to Add Guest
--- >> Press 2 to View Guests
--- >> Press 3 to Update Guest
--- >> Press 4 to Delete Guest
--- >> Press 9 to Return to Previous Menu
```

Clothes Management System (Boy Hostel 1)

If the user selects 4 in the Boy Hostel 1 submenu:

```
sql                                                                    Copy code

=====
                                CLOTHES MANAGEMENT SYSTEM
=====

--- >> Press 1 to Add Clothes Record
--- >> Press 2 to View Clothes Records
--- >> Press 3 to Update Clothes Record
--- >> Press 4 to Delete Clothes Record
--- >> Press 9 to Return to Previous Menu
```

Security Management System (Boy Hostel 1)

If the user selects 5 in the Boy Hostel 1 submenu:

```
sql Copy code  
  
=====   
                        SECURITY MANAGEMENT SYSTEM   
=====   
  
--- >> Press 1 to Add Security Incident  
--- >> Press 2 to View Security Incidents  
--- >> Press 3 to Update Security Incident  
--- >> Press 4 to Delete Security Incident  
--- >> Press 9 to Return to Previous Menu
```

Salary Management System (Boy Hostel 1)

If the user selects 6 in the Boy Hostel 1 submenu:

```
sql Copy code  
  
=====   
                        SALARY MANAGEMENT SYSTEM   
=====   
  
--- >> Press 1 to Add Salary Record  
--- >> Press 2 to View Salary Records  
--- >> Press 3 to Update Salary Record  
--- >> Press 4 to Delete Salary Record  
--- >> Press 9 to Return to Previous Menu
```

Account Management System (Boy Hostel 1)

If the user selects 7 in the Boy Hostel 1 submenu:

```
sql Copy code

=====
                        ACCOUNT MANAGEMENT SYSTEM
=====

--- >> Press 1 to Add Account Record
--- >> Press 2 to View Account Records
--- >> Press 3 to Update Account Record
--- >> Press 4 to Delete Account Record
--- >> Press 9 to Return to Previous Menu
```

1. Student Management System

When the user selects `Press 1 STUDENT MANAGEMENT SYSTEM` in any hostel submenu, they will see:

```
css Copy code

=====
                        STUDENT MANAGEMENT SYSTEM
=====

--- >> Press 1 to Add Student
--- >> Press 2 to View Students
--- >> Press 3 to Update Student
--- >> Press 4 to Delete Student
--- >> Press 5 to Manage Fines
--- >> Press 9 to Return to Previous Menu
```

Adding a Student

If the user selects `Press 1 to Add Student`:

Adding a Student

If the user selects ``Press 1 to Add Student``:

The system will prompt the user to enter the student details, such as:

```
mathematica Copy code  
  
Enter Student Name: [user inputs name]  
Enter Student ID: [user inputs ID]  
Enter Student Room Number: [user inputs room number]  
Enter Student Contact Number: [user inputs contact number]
```

After entering the details, the system will display a message like:

```
CSS Copy code  
  
Student [Name] added successfully!
```

Viewing Students

If the user selects ``Press 2 to View Students``:

The system will list all the students in the hostel:

```
yaml                                                                    Copy code

ID: 1, Name: John Doe, Room: 101, Contact: 1234567890
ID: 2, Name: Jane Smith, Room: 102, Contact: 0987654321
...
```

Updating a Student

If the user selects ``Press 3 to Update Student``:

The system will prompt the user to enter the student ID of the student they wish to update:

```
sql                                                                    Copy code

Enter Student ID to update: [user inputs ID]
```

Then the system will prompt for the new details:

```
sql                                                                    Copy code

Enter New Name: [user inputs new name]
Enter New Room Number: [user inputs new room number]
Enter New Contact Number: [user inputs new contact number]
```


After updating the details, the system will display a message like:

```
css                                                                    Copy code

Student details updated successfully!
```

Deleting a Student

If the user selects ``Press 4 to Delete Student``:

The system will prompt the user to enter the student ID of the student they wish to delete:

```
sql                                                                    Copy code

Enter Student ID to delete: [user inputs ID]
```

After deleting the student, the system will display a message like:

```
css                                                                    Copy code

Student [Name] deleted successfully!
```

Managing Fines

If the user selects ``Press 5 to Manage Fines``:

The system will prompt the user to enter the student ID for whom they wish to manage fines:

```
css                                                                    Copy code

Enter Student ID to manage fines: [user inputs ID]
```

Then the system will prompt for the fine details:

```
mathematica                                                            Copy code

Enter Fine Amount: [user inputs fine amount]
Enter Fine Reason: [user inputs fine reason]
```

After entering the fine details, the system will display a message like:

```
mathematica                                                            Copy code

Fine added successfully!
```

To view fines, the user can again select the student ID, and the system will display:

```
yaml                                                                    Copy code

ID: 1, Name: John Doe, Fines: $50 - Late Fee, $30 - Library Fine
...
```

2. Mess Management System

When the user selects `Press 2 MESS MANAGEMENT SYSTEM` in any hostel submenu, they will see:

```
sql                                                                    Copy code

=====
                        MESS MANAGEMENT SYSTEM
=====

--- >> Press 1 to Add Mess Record
--- >> Press 2 to View Mess Records
--- >> Press 3 to Update Mess Record
--- >> Press 4 to Delete Mess Record
--- >> Press 9 to Return to Previous Menu
```

Adding a Mess Record

If the user selects ``Press 1 to Add Mess Record``:

The system will prompt for mess details:

```
less Copy code  
  
Enter Date: [user inputs date]  
Enter Meal Type (Breakfast/Lunch/Dinner): [user inputs meal type]  
Enter Menu Details: [user inputs menu details]
```

After entering the details, the system will display a message like:


```
csharp Copy code  
  
Mess record added successfully!
```

Viewing Mess Records

If the user selects ``Press 2 to View Mess Records``:

The system will list all the mess records:

yaml

 Copy code


```
Date: 01-01-2023, Meal: Breakfast, Menu: Eggs, Toast, Coffee  
Date: 01-01-2023, Meal: Lunch, Menu: Chicken, Rice, Salad  
...
```

Updating a Mess Record

If the user selects ``Press 3 to Update Mess Record``:

The system will prompt for the date of the record to update:


sql

 Copy code

```
Enter Date to update: [user inputs date]  
Enter Meal Type: [user inputs meal type]
```

Then the system will prompt for the new details:

less

 Copy code

```
Enter New Menu Details: [user inputs new menu details]
```

After updating the details, the system will display a message like:

```
cssharp Copy code  
  
Mess record updated successfully!
```

Deleting a Mess Record

If the user selects ``Press 4 to Delete Mess Record``:

The system will prompt for the date of the record to delete:

```
sql Copy code  
  
Enter Date to delete: [user inputs date]  
Enter Meal Type: [user inputs meal type]
```

After deleting the record, the system will display a message like:

```
cssharp Copy code  
  
Mess record deleted successfully!
```

3. Guests Management System

When the user selects `Press 3 GUESTS MANAGEMENT SYSTEM` in any hostel submenu, they will see:

```
css Copy code

=====
                        GUESTS MANAGEMENT SYSTEM
=====


--- >> Press 1 to Add Guest
--- >> Press 2 to View Guests
--- >> Press 3 to Update Guest
--- >> Press 4 to Delete Guest
--- >> Press 9 to Return to Previous Menu
```

Adding a Guest

If the user selects `Press 1 to Add Guest`:

The system will prompt for guest details:


mathematica

 Copy code

```
Enter Guest Name: [user inputs name]
Enter Guest ID: [user inputs ID]
Enter Visit Date: [user inputs date]
Enter Room Number: [user inputs room number]
Enter Contact Number: [user inputs contact number]
```

After entering the details, the system will display a message like:

css

 Copy code


```
Guest [Name] added successfully!
```

Viewing Guests

If the user selects `Press 2 to View Guests`:

The system will list all the guests:

yaml

 Copy code

```
ID: 1, Name: Michael Johnson, Visit Date: 01-01-2023, Room: 101, Contact: 1234567890
ID: 2, Name: Sarah Connor, Visit Date: 01-02-2023, Room: 102, Contact: 0987654321
```


Updating a Guest

If the user selects `Press 3 to Update Guest`:

The system will prompt the user to enter the guest ID of the guest they wish to update:

```
sql                                                                    Copy code

Enter Guest ID to update: [user inputs ID]
```

Then the system will prompt for the new details:

```
sql                                                                    Copy code

Enter New Name: [user inputs new name]
Enter New Visit Date: [user inputs new visit date]
Enter New Room Number: [user inputs new room number]
Enter New Contact Number: [user inputs new contact number]
```

After updating the details, the system will display a message like:

```
css                                                                    Copy code

Guest details updated successfully!
```

Deleting a Guest

If the user selects `Press 4 to Delete Guest`:

The system will prompt the user to enter the guest ID of the guest they wish to delete:

```
sql                                                                    Copy code

Enter Guest ID to delete: [user inputs ID]
```

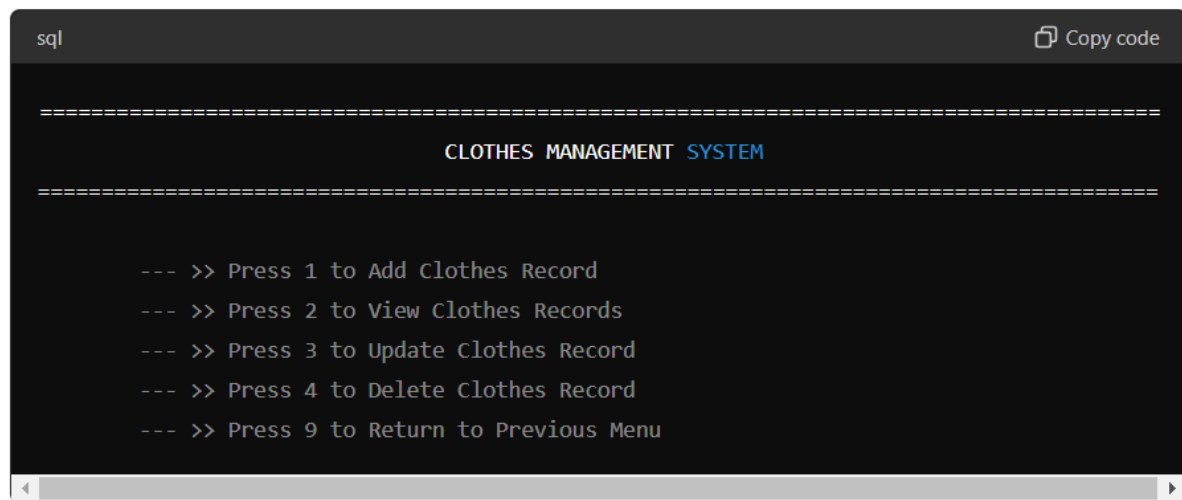
After deleting the guest, the system will display a message like:

```
css                                                                    Copy code

Guest [Name] deleted successfully!
```

4. Clothes Management System

When the user selects ``Press 4 CLOTHES MANAGEMENT SYSTEM`` in any hostel submenu, they will see:

A screenshot of a terminal window with a dark background. The title bar at the top shows 'sql' on the left and a 'Copy code' button on the right. The terminal content displays a menu for the 'CLOTHES MANAGEMENT SYSTEM'. The title is centered between two dashed lines. Below the title, there are five menu options, each preceded by '--- >>'. The options are: 'Press 1 to Add Clothes Record', 'Press 2 to View Clothes Records', 'Press 3 to Update Clothes Record', 'Press 4 to Delete Clothes Record', and 'Press 9 to Return to Previous Menu'. A horizontal scrollbar is visible at the bottom of the terminal window.

```
sql                                                                    Copy code

=====

                        CLOTHES MANAGEMENT SYSTEM

=====


--- >> Press 1 to Add Clothes Record
--- >> Press 2 to View Clothes Records
--- >> Press 3 to Update Clothes Record
--- >> Press 4 to Delete Clothes Record
--- >> Press 9 to Return to Previous Menu
```

Adding a Clothes Record

If the user selects ``Press 1 to Add Clothes Record``:

The system will prompt for clothes details:


sql

 Copy code

```
Enter Date: [user inputs date]
Enter Student ID: [user inputs student ID]
Enter Clothes Description: [user inputs description]
Enter Clothes Status (Clean/Dirty): [user inputs status]
```

After entering the details, the system will display a message like:

csharp

 Copy code


```
Clothes record added successfully!
```

Viewing Clothes Records

If the user selects `Press 2 to View Clothes Records`:

The system will list all the clothes records:

yaml

 Copy code

```
Date: 01-01-2023, Student ID: 1, Description: 2 Shirts, 3 Pants, Status: Clean
Date: 01-02-2023, Student ID: 2, Description: 1 Shirt, 2 Pants, Status: Dirty
...
```

Updating a Clothes Record

If the user selects ``Press 3 to Update Clothes Record``:

The system will prompt for the date and student ID of the record to update:

```
sql Copy code  
  
Enter Date to update: [user inputs date]  
Enter Student ID: [user inputs student ID]
```

Then the system will prompt for the new details:

```
sql Copy code  
  
Enter New Clothes Description: [user inputs new description]  
Enter New Clothes Status: [user inputs new status]
```

After updating the details, the system will display a message like:

```
csharp Copy code  
  
Clothes record updated successfully!
```

Deleting a Clothes Record

If the user selects ``Press 4 to Delete Clothes Record``:

The system will prompt for the date and student ID of the record to delete:

```
sql Copy code  
  
Enter Date to delete: [user inputs date]  
Enter Student ID: [user inputs student ID]
```

After deleting the record, the system will display a message like:

```
csharp Copy code  
  
Clothes record deleted successfully!
```

5. Security Management System

When the user selects ``Press 5 SECURITY MANAGEMENT SYSTEM`` in any hostel submenu, they will see:


```
sql Copy code  
  
=====   
                        SECURITY MANAGEMENT SYSTEM   
=====   
  
--- >> Press 1 to Add Security Incident   
--- >> Press 2 to View Security Incidents   
--- >> Press 3 to Update Security Incident   
--- >> Press 4 to Delete Security Incident   
--- >> Press 9 to Return to Previous Menu
```

Adding a Security Incident

If the user selects ``Press 1 to Add Security Incident``:


The system will prompt for incident details:

sql

 Copy code

```
Enter Date: [user inputs date]
Enter Incident Description: [user inputs description]
Enter Action Taken: [user inputs action]
```

After entering the details, the system will display a message like:

 Copy code


```
Security incident added successfully!
```

Viewing Security Incidents

If the user selects `Press 2 to View Security Incidents`:

The system will list all the security incidents:

yaml

 Copy code

```
Date: 01-01-2023, Incident: Theft in Room 101, Action: Police Informed
Date: 01-02-2023, Incident: Unauthorized Entry, Action: Security Alert
...
```

Updating a Security Incident

If the user selects ``Press 3 to Update Security Incident``:

The system will prompt for the date and description of the incident to update:

```
sql Copy code  
  
Enter Date to update: [user inputs date]  
Enter Incident Description: [user inputs description]
```

Then the system will prompt for the new details:

```
sql Copy code  
  
Enter New Action Taken: [user inputs new action]
```

After updating the details, the system will display a message like:

```
Copy code  
  
Security incident updated successfully!
```

Deleting a Security Incident

If the user selects ``Press 4 to Delete Security Incident``:

The system will prompt for the date and description of the incident to delete:

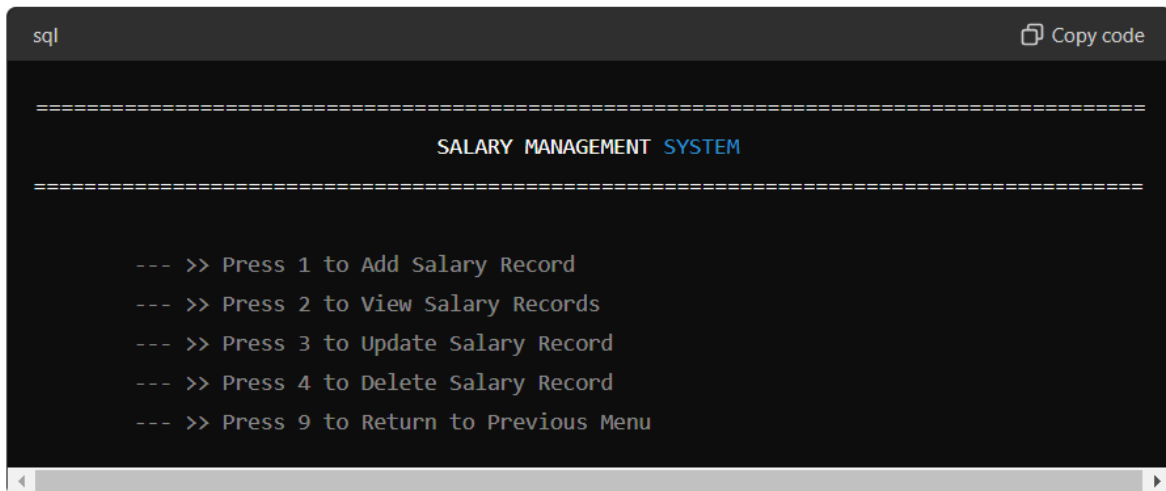
```
sql Copy code  
  
Enter Date to delete: [user inputs date]  
Enter Incident Description: [user inputs description]
```

After deleting the incident, the system will display a message like:

```
Copy code  
  
Security incident deleted successfully!
```

6. Salary Management System

When the user selects `Press 6 SALARY MANAGEMENT SYSTEM` in any hostel submenu, they will see:

A screenshot of a terminal window with a dark background. The window has a title bar with 'sql' on the left and a 'Copy code' button on the right. The terminal content shows a menu for the 'SALARY MANAGEMENT SYSTEM'. The menu is enclosed in dashed lines and lists five options: 'Press 1 to Add Salary Record', 'Press 2 to View Salary Records', 'Press 3 to Update Salary Record', 'Press 4 to Delete Salary Record', and 'Press 9 to Return to Previous Menu'. The word 'SYSTEM' is highlighted in blue in the title.

```
sql                                                                    Copy code

=====
                        SALARY MANAGEMENT SYSTEM
=====


--- >> Press 1 to Add Salary Record
--- >> Press 2 to View Salary Records
--- >> Press 3 to Update Salary Record
--- >> Press 4 to Delete Salary Record
--- >> Press 9 to Return to Previous Menu
```

Adding a Salary Record

If the user selects `Press 1 to Add Salary Record`:

The system will prompt for salary details:


sql

 Copy code

```
Enter Staff Name: [user inputs name]
Enter Staff ID: [user inputs ID]
Enter Salary Amount: [user inputs amount]
Enter Payment Date: [user inputs date]
```

After entering the details, the system will display a message like:

csharp

 Copy code


```
Salary record added successfully!
```

Viewing Salary Records

If the user selects ``Press 2 to View Salary Records``:

The system will list all the salary records:

yaml

 Copy code


```
Name: John Doe, ID: 1, Salary: $1000, Date: 01-01-2023
Name: Jane Smith, ID: 2, Salary: $1200, Date: 01-02-2023
```

Updating a Salary Record

If the user selects ``Press 3 to Update Salary Record``:

The system will prompt for the staff ID of the record to update:


sql

 Copy code

```
Enter Staff ID to update: [user inputs ID]
```

Then the system will prompt for the new details:

sql


 Copy code

```
Enter New Salary Amount: [user inputs new amount]
```

```
Enter New Payment Date: [user inputs new date]
```

After updating the details, the system will display a message like:

csharp

 Copy code


```
Salary record updated successfully!
```

Deleting a Salary Record

If the user selects ``Press 4 to Delete Salary Record``:

The system will prompt for the staff ID of the record to delete:


sql

 Copy code

```
Enter Staff ID to delete: [user inputs ID]
```

After deleting the record, the system will display a message like:

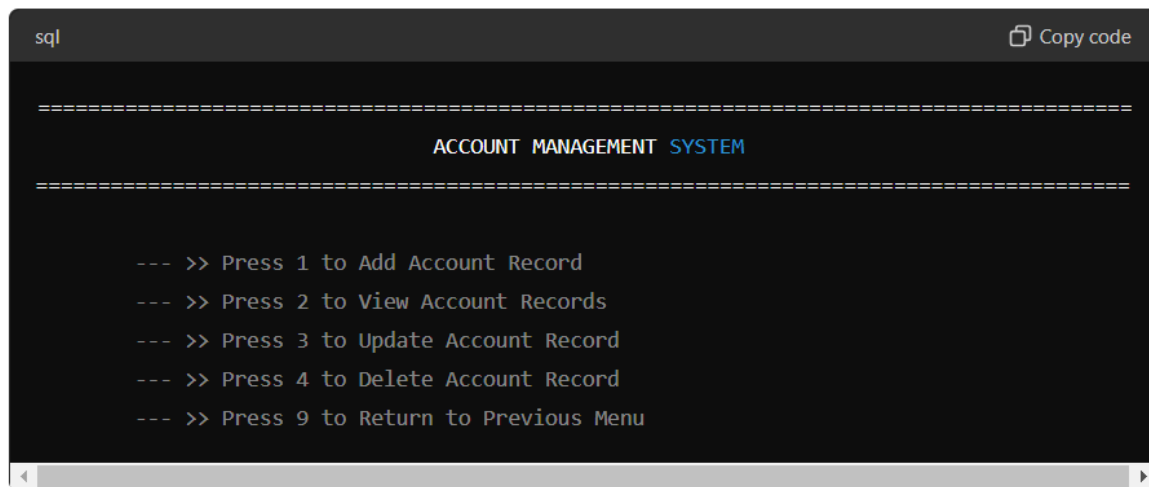
csharp

 Copy code

```
Salary record deleted successfully!
```

7. Account Management System

When the user selects `Press 7 ACCOUNT MANAGEMENT SYSTEM` in any hostel submenu, they will see:



```
sql Copy code  
  
=====   
ACCOUNT MANAGEMENT SYSTEM   
=====   
  
--- >> Press 1 to Add Account Record  
--- >> Press 2 to View Account Records  
--- >> Press 3 to Update Account Record  
--- >> Press 4 to Delete Account Record  
--- >> Press 9 to Return to Previous Menu
```

Adding an Account Record

If the user selects `Press 1 to Add Account Record`:

The system will prompt for account details:

```
sql Copy code

Enter Date: [user inputs date]
Enter Description: [user inputs description]
Enter Amount: [user inputs amount]
```

After entering the details, the system will display a message like:

```
csharp Copy code

Account record added successfully!
```

Viewing Account Records

If the user selects ``Press 2 to View Account Records``:

The system will list all the account records:

```
yaml Copy code

Date: 01-01-2023, Description: Utility Bill, Amount: $200
Date: 01-02-2023, Description: Maintenance Fee, Amount: $150
...
```

Updating an Account Record

If the user selects ``Press 3 to Update Account Record``:

The system will prompt for the date and description of the record to update:

```
sql Copy code  
  
Enter Date to update: [user inputs date]  
Enter Description to update: [user inputs description]
```

Then the system will prompt for the new details:

```
sql Copy code  
  
Enter New Amount: [user inputs new amount]
```

After updating the details, the system will display a message like:

```
csharp Copy code  
  
Account record updated successfully!
```

Deleting an Account Record

If the user selects ``Press 4 to Delete Account Record``:

The system will prompt for the date and description of the record to delete:

```
sql Copy code  
  
Enter Date to delete: [user inputs date]  
Enter Description to delete: [user inputs description]
```

After deleting the record, the system will display a message like:

```
csharp Copy code  
  
Account record deleted successfully!
```

Returning to Previous Menus

For each submenu, selecting ``Press 9 to Return to Previous Menu`` will take the user back to the previous menu level.