

Mini Project -2

CSC107 2.0 Introduction to Computer Programming-1

Write a C program that simulates an Airplane Seat Reservation System with Cost Calculation with options to book a seat, view all reservations, and calculate the total cost based on age, fare rates, and discounts.

Fare Rates and Discounts:

Regular Fare: \$100

Child (0-12 years): \$50

Senior (65+ years): \$70

Discounts: 10% off for groups of 5 or more

Menu Option

Implement a loop to display the menu shown below and take user input for their choice. If the user gives a wrong input , show them an error message.

```
Airplane Seat Reservation System
1. Book Seats
2. View All Reservations
3. Calculate Total Cost
4. Exit
Enter your choice:
```

bookSeats Option

Write a simple function to book multiple seats by marking them as reserved and inputting passenger details (age).

- Books multiple seats based on user input and marks them as reserved ('X').
- Prompts for passenger age and validates input.
- Continues booking until the specified number of reservations is reached.

If the user gives a wrong input , show them an error message.

```
Enter your choice: 1
Enter the number of reservations: 2
Enter row (0 to 9) and column (0 to 5) to book: 2 3
Enter passenger age: 10
Seat at row 2, column 3 has been booked for age 10.
Enter row (0 to 9) and column (0 to 5) to book: 2 2
Enter passenger age: 34
Seat at row 2, column 2 has been booked for age 34.
```

viewReservations Option

Displays the seat status as shown below where 'O' indicates available and 'X' indicates reserved and space between 3rd and 4th columns.

```
Enter your choice: 2

Current Seat Reservations:
O O O      O O O
O O O      O O O
O O X      X O O
O O O      O O O
O O O      O O O
O O O      O O O
O O O      O O O
O O O      O O O
O O O      O O O
O O O      O O O
O O O      O O O
```

calculateTotalCost

Calculates the total cost of all reserved seats based on age and applies a discount if applicable

```
Enter your choice: 3
Total cost: $150.00
```

Exit

Ensure the program continues to run until the user chooses to exit.

```
Enter your choice: 4
Exiting program.
```

End
