-MOVIE TICKET BOOKING SYSTEM-

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C Programming
18-07-2024

-INTRODUCTION-

The project is developed based movie ticket booking system in C. It allows users to select a movie, choose a showtime, pick seats, and calculate the total cost.This project also provides solution to Factors like- single platform multiple booking types,slot management,price per booking,time slot management etc.

Main purpose of this project is to ensuring efficient seat selection, payment calculation, and seat availability management.

-SYSTEM REQUIREMENTS-

-Hardware Requirements-

Standard personal computer with sufficient RAM and processing power to run a console-based application.

-Software Requirements-

Operating System: Windows/Linux/macOS

# Development Environment: Code editor (e.g., Vs Code), GCC compiler.

-DESIGN AND DEVELOPMENT-

The program initializes a **matrix of movie structures**, each containing an array representing seat availability.Then using **various functions assigned to each purpose** which include

No of persons who wish to watch the movie

showing booked seats (includes within same function),

adding 70 seats to an array,

Asking the user to choose the seats which is given to a new array,

New array is compared to array including 70 seats

Giving condition for re booking of same seat(new function),

Deleting the compared seats from the array including 70 seats

Another function including payment options.

Then User interacts a **menu-driven interface** to select movies, show timings giving appropriate function call . Input validation ensures only valid seat selections are accepted .

-PSEUDOCODE-

```
START
DEFINE SEATS as 70
DEFINE struct movie with array seat[SEATS]
FUNCTION info(nn, selectedSeats, nnSelectedSeats)
    PRINT "Enter number of persons: "
    READ nn
    PRINT seat selection information
    PRINT "Booked seats are: "
    FOR i FROM 0 TO nnSelectedSeats - 1
        PRINT selectedSeats[i]
    END FOR
END FUNCTION
FUNCTION addSeats(seat)
    FOR i FROM 0 TO SEATS - 1
        seat[i] = i + 1
    END FOR
END FUNCTION
FUNCTION checkFunction(num, seat, selectedSeats, nn)
    FOR i FROM 0 TO nn - 1
        IF num == selectedSeats[I]
            PRINT "Seat number", num, "is already chosen."
            RETURN 0
        END IF
    END FOR
    FOR i FROM 0 TO SEATS - 1
```

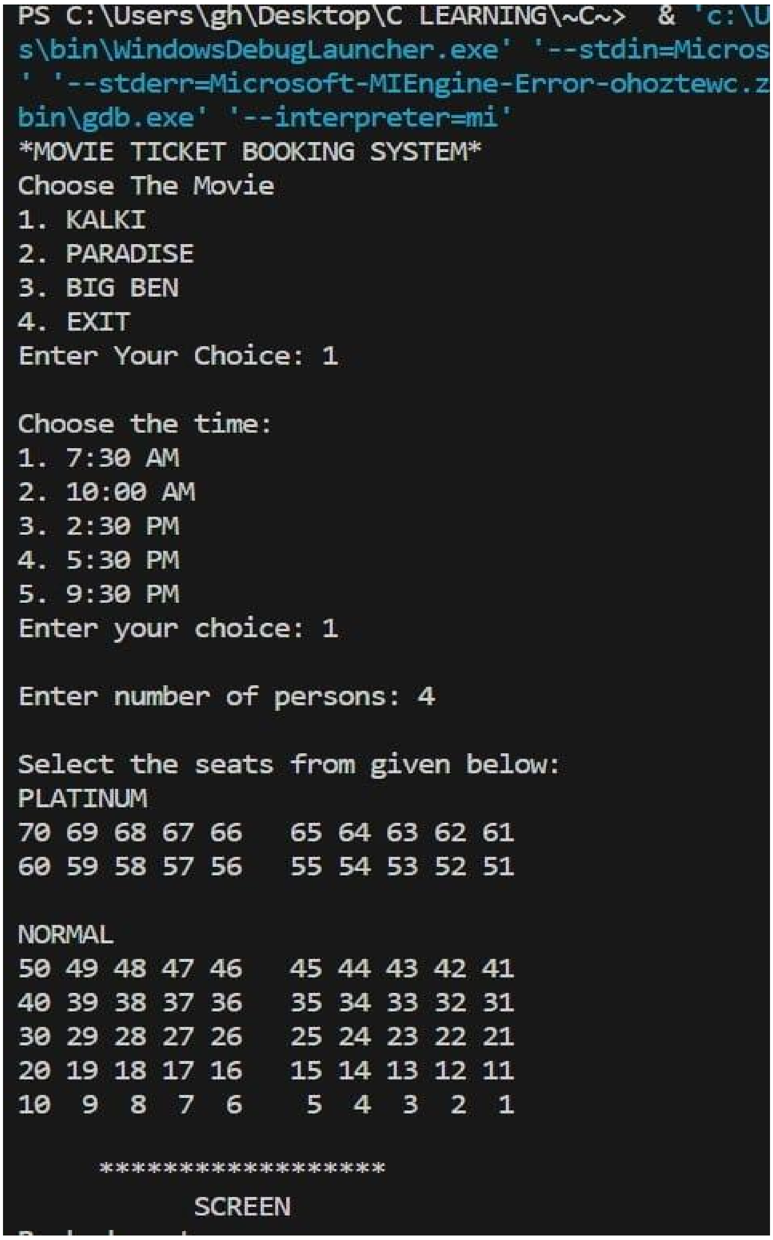
```
IF num == seat[i]
 RETURN 1
 END IF
 END FOR
 PRINT "Invalid seat number."
 RETURN 0
END FUNCTION
FUNCTION fullFunction(seat, selectedSeats, nn)
DECLARE num
FOR i FROM 0 TO nn - 1
 DO
 PRINT "Enter the seat number: "
  READ num
  WHILE NOT checkFunction(num, seat, selectedSeats, i)
  selectedSeats[i] = num
 END FOR
FOR i FROM 0 TO nn - 1
 FOR j FROM 0 TO SEATS - 1
 IF seat[j] == selectedSeats[i]
 FOR k FROM j TO SEATS - 2
seat[k] = seat[k + 1]
END FOR
seat[SEATS - 1] = 0
BREAK
END IF
END FOR
```

```
 END FOR
END FUNCTION
FUNCTION paymentID(selectedSeats, nn)
DECLARE pay AS 0
 DECLARE payPlat AS 0
  FOR i FROM 0 TO nn - 1
  IF selectedSeats[i] <= 50 AND selectedSeats[i] != 0
  pay += 150
ELSE IF selectedSeats[i] > 50 AND selectedSeats[i] <= SEATS payPlat += 250
        END IF
 END FOR
 PRINT "TOTAL:", pay + payPlat + 40
END FUNCTION
MAIN
 DECLARE choice, timeChoice, nn
  DECLARE movies[3][5] AS ARRAY OF struct movie
  DECLARE selectedSeats[SEATS] AS ARRAY OF INT
FOR i FROM 0 TO 2
 FOR j FROM 0 TO 4
 CALL addSeats(movies[i][j].seat)
END FOR
END FOR
PRINT "Choose The Movie"
PRINT "1. KALKI"
 PRINT "2. PARADISE"
 PRINT "3. BIG BEN"
 PRINT "4. EXIT"
 PRINT "Enter Your Choice: "
 READ choice
WHILE choice != 4
PRINT "Choose the time:
PRINT "1. 7:30 AM"
 PRINT "2. 10:00 AM"
 PRINT "3. 2:30 PM"
  PRINT "4. 5:30 PM"
  PRINT "5. 9:30 PM"
  PRINT "Enter your choice: "
  READ timeChoice
IF choice >= 1 AND choice <= 3 AND timeChoice >= 1 AND timeChoice <= 5
FOR i FROM 0 TO SEATS - 1
selectedSeats[i] = 0
END FOR
 CALL info(nn, selectedSeats, 0)
CALL fullFunction(movies[choice - 1][timeChoice - 1].seat, selectedSeats, nn)
CALL paymentID(selectedSeats, nn)
ELSE
PRINT "Invalid choice! Please choose again."
END IF
PRINT "Do you want to continue? (y/n): "
DECLARE continueChoice AS CHAR
 READ continueChoice
IF continueChoice == 'n' OR continueChoice == 'N'
```

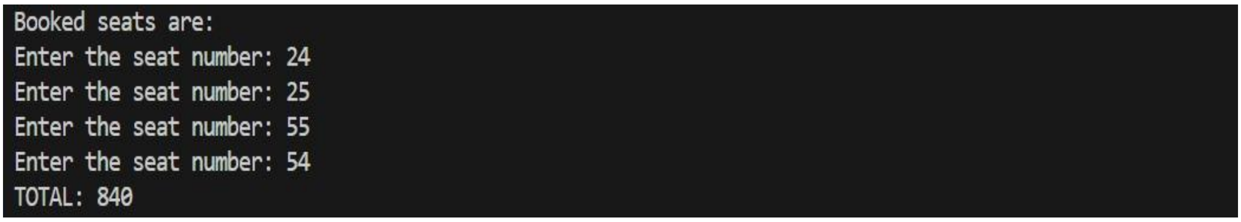
```
BREAK
END IF
END WHILE
END MAIN
STOP
```

-TESTING AND RESULT-

Test Case 1: Selecting seats sequentially.

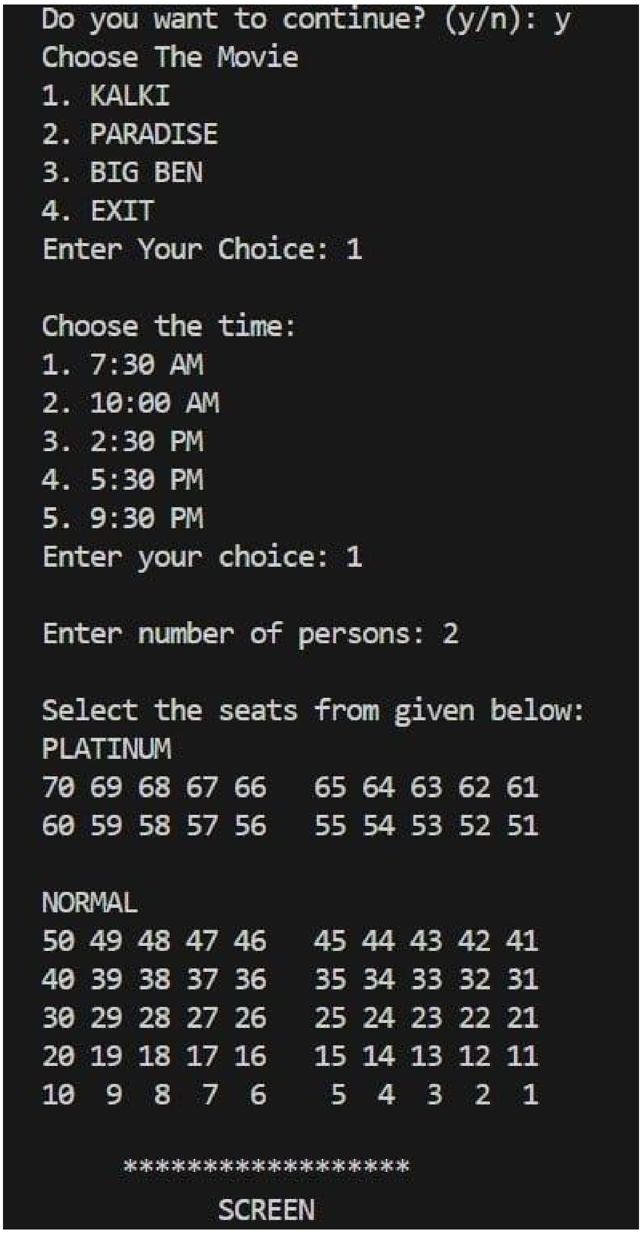


```
PS C:\Users\gh\Desktop\C LEARNING\~C~>  & 'c:\U
s\bin\WindowsDebugLauncher.exe' '--stdin=Micros
' '--stderr=Microsoft-MIEngine-Error-ohoztewc.z
bin\gdb.exe' '--interpreter=mi'
*MOVIE TICKET BOOKING SYSTEM*
Choose The Movie
1. KALKI
2. PARADISE
3. BIG BEN
4. EXIT
Enter Your Choice: 1

Choose the time:
1. 7:30 AM
2. 10:00 AM
3. 2:30 PM
4. 5:30 PM
5. 9:30 PM
Enter your choice: 1

Enter number of persons: 4

Select the seats from given below:
PLATINUM
70 69 68 67 66   65 64 63 62 61
60 59 58 57 56   55 54 53 52 51

NORMAL
50 49 48 47 46   45 44 43 42 41
40 39 38 37 36   35 34 33 32 31
30 29 28 27 26   25 24 23 22 21
20 19 18 17 16   15 14 13 12 11
10  9  8  7  6    5  4  3  2  1

     ******************
           SCREEN
```

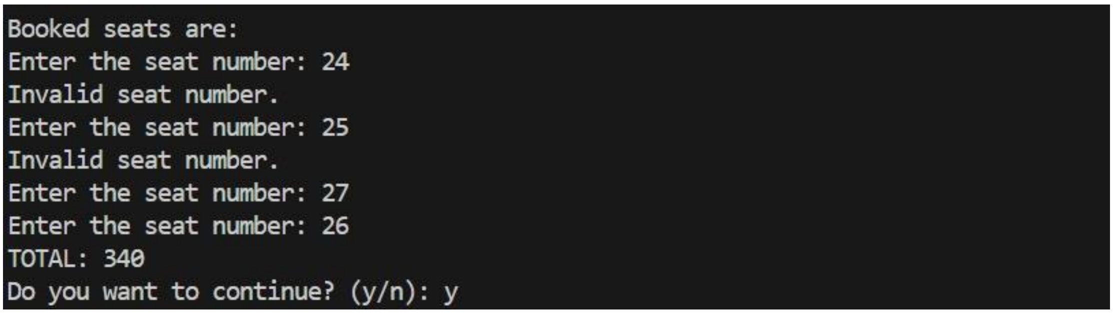


```
Booked seats are:
Enter the seat number: 24
Enter the seat number: 25
Enter the seat number: 55
Enter the seat number: 54
TOTAL: 840
```

Test Case 2: Attempting to select already booked seats.

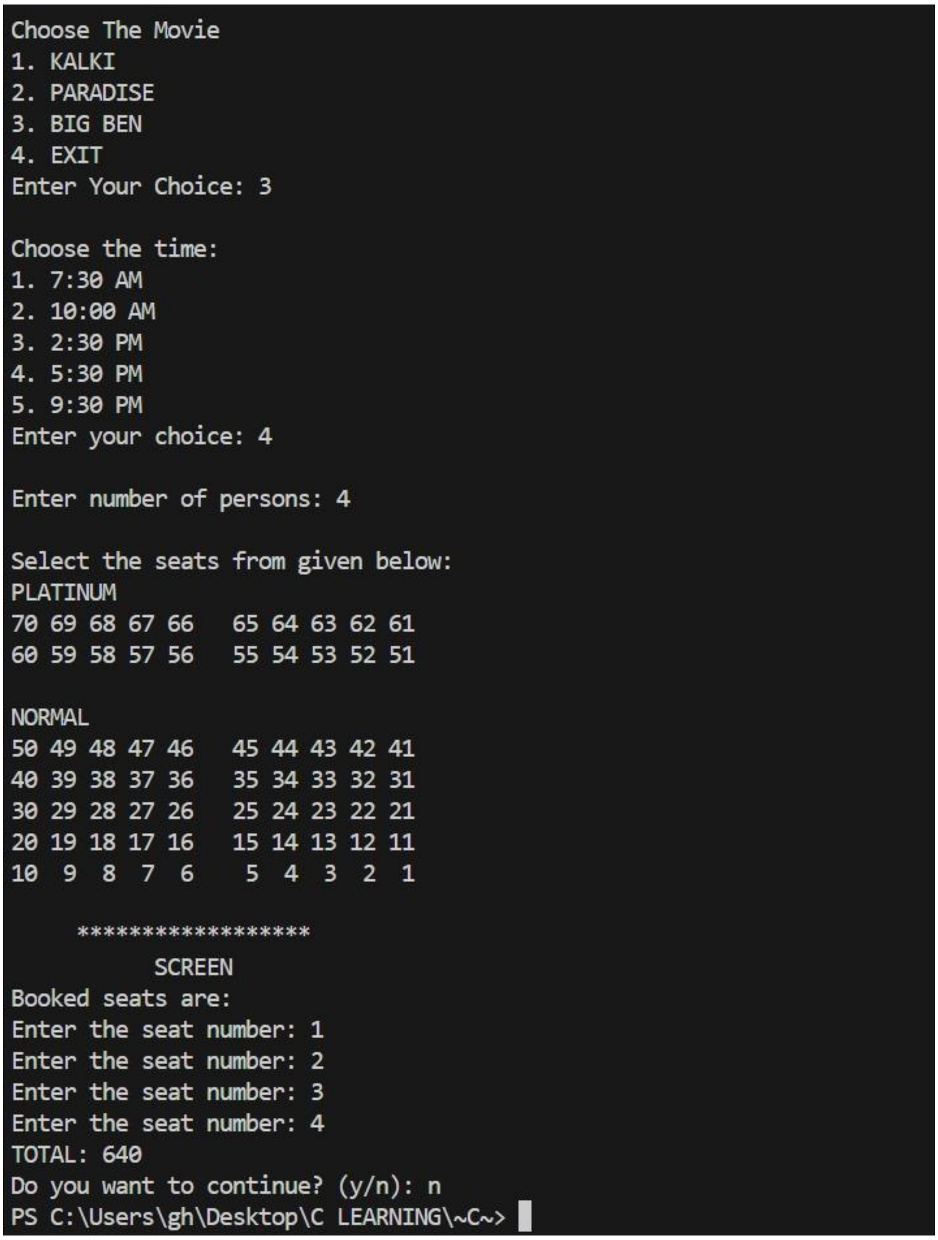


```
Do you want to continue? (y/n): y
Choose The Movie
1. KALKI
2. PARADISE
3. BIG BEN
4. EXIT
Enter Your Choice: 1

Choose the time:
1. 7:30 AM
2. 10:00 AM
3. 2:30 PM
4. 5:30 PM
5. 9:30 PM
Enter your choice: 1

Enter number of persons: 2

Select the seats from given below:
PLATINUM
70 69 68 67 66   65 64 63 62 61
60 59 58 57 56   55 54 53 52 51

NORMAL
50 49 48 47 46   45 44 43 42 41
40 39 38 37 36   35 34 33 32 31
30 29 28 27 26   25 24 23 22 21
20 19 18 17 16   15 14 13 12 11
10  9  8  7  6    5  4  3  2  1

     ******************
           SCREEN
```



```
Booked seats are:
Enter the seat number: 24
Invalid seat number.
Enter the seat number: 25
Invalid seat number.
Enter the seat number: 27
Enter the seat number: 26
TOTAL: 340
Do you want to continue? (y/n): y
```

Test Case 3: Calculating payment for different types of seats.



```
Choose The Movie
1. KALKI
2. PARADISE
3. BIG BEN
4. EXIT
Enter Your Choice: 3

Choose the time:
1. 7:30 AM
2. 10:00 AM
3. 2:30 PM
4. 5:30 PM
5. 9:30 PM
Enter your choice: 4

Enter number of persons: 4

Select the seats from given below:
PLATINUM
70 69 68 67 66   65 64 63 62 61
60 59 58 57 56   55 54 53 52 51

NORMAL
50 49 48 47 46   45 44 43 42 41
40 39 38 37 36   35 34 33 32 31
30 29 28 27 26   25 24 23 22 21
20 19 18 17 16   15 14 13 12 11
10  9  8  7  6    5  4  3  2  1

     ******************
           SCREEN
Booked seats are:
Enter the seat number: 1
Enter the seat number: 2
Enter the seat number: 3
Enter the seat number: 4
TOTAL: 640
Do you want to continue? (y/n): n
PS C:\Users\gh\Desktop\C LEARNING\~C~> █
```

-Discussion of Results-

The system effectively manages seat bookings and calculates payments accurately. It handles input errors gracefully and provides clear prompts to users.

-CONCLUSION-

- SUMMARY OF THE PROJECT-

The Movie Ticket Booking System in C successfully automates the process of reserving movie seats,select movies in accordance with time and payment according tho the class.

Future Enhancements

# Implementing user authentication.

Adding email/SMS notifications for booking confirmations.

Integrating a graphical user interface for improved usability.

-REFERENCES-

Chatgpt ,programiz for complex loops and reset booked seat for another timings

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-APPENDICES-

```
#include <stdio.h>

#define SEATS 70

struct movie {
   int seat[SEATS];
};






void info(int *nn, int selectedSeats[], int nnSelectedSeats)
{
   printf("\nEnter number of persons: ");
   scanf("%d", nn);

   printf("\nSelect the seats from given below:\n"
        "PLATINUM\n"
        "70 69 68 67 66   65 64 63 62 61\n"
        "60 59 58 57 56   55 54 53 52 51\n\n"
        "NORMAL\n"
        "50 49 48 47 46   45 44 43 42 41\n"
        "40 39 38 37 36   35 34 33 32 31\n"
        "30 29 28 27 26   25 24 23 22 21\n"
        "20 19 18 17 16   15 14 13 12 11\n"
        "10  9  8  7  6    5  4  3  2  1\n"
        "\n     ******************\n"
        "          SCREEN\n");

   printf("Booked seats are: ");
   for (int i = 0;i<nnSelectedSeats;i++) {        //showing
booked seats
      printf("%d ",selectedSeats[i]);
   }
```

```
    printf("\n");
}



void addSeats(int seat[]) {
    for (int i = 0; i<SEATS; i++) {             //adding 70 seats to
an array
        seat[i] = i+1;
    }
}



int checkFunction(int num, int seat[], int selectedSeats[],
int nn) {
    for (int i = 0;i<nn; i++) {
        if (num==selectedSeats[i]) {
            printf("Seat number %d is already chosen.\n",num);
//if seat no is equal to previous selectedseat numbers
then
            return 0;
        }
    }
    for (int i= 0;i<SEATS;i++) {
        if (num == seat[i]) {

            return 1;
        }
```

```
     }
    printf("Invalid seat number.\n");
    return 0;
}





void fullFunction(int seat[], int selectedSeats[], int nn) {
    int num;
    for (int i = 0;i<nn;i++) {
        do {
            printf("Enter the seat number: ");
            scanf("%d", &num);
        } while (!checkFunction(num, seat, selectedSeats, i));
//if checkfunction condition is not valid
                                                                     //then the given
seat number will transfered to new array

        selectedSeats[i] = num;
    }

    for (int i = 0;i<nn;i++) {
        for (int j = 0;j<SEATS;j++) {
            if (seat[j]==selectedSeats[i]) {
                for (int k = j; k<SEATS-1;k++) {              /*the seat
number given to selected
                                                                        array and
delete that numbers from orginal array*/
                    seat[k] = seat[k+1];
                }
                seat[SEATS-1] = 0;
                break;}
            }
         }
```

```
}




void paymentID(int selectedSeats[], int nn) {
    int pay = 0;
    int payPlat = 0;
    for (int i = 0; i < nn; i++) {
        if (selectedSeats[i] <= 50 && selectedSeats[i] != 0)
{      //funnction for payment
            pay += 150;
        } else if (selectedSeats[i] > 50 && selectedSeats[i] <=
SEATS) {
            payPlat += 250;
        }
    }
    printf("TOTAL: %d\n", pay + payPlat + 40);
}




int main() {
    int choice, timeChoice, nn;
    struct movie movies[3][5];
    int selectedSeats[SEATS];

                                                // Initialize seat availability
for each movie and showtime
    for (int i = 0; i < 3; i++) {
        for (int j = 0; j < 5; j++) {
            addSeats(movies[i][j].seat);
        }
    }
    printf("*MOVIE TICKET BOOKING SYSTEM*\n");
    printf("Choose The Movie\n");
    printf("1. KALKI\n");
    printf("2. PARADISE\n");
    printf("3. BIG BEN\n");
    printf("4. EXIT\n");
    printf("Enter Your Choice: ");
    scanf("%d", &choice);

    while (choice != 4) {
                                            //using menu driven
program combining movie name with movie timings
        printf("\nChoose the time:\n");
        printf("1. 7:30 AM\n");
        printf("2. 10:00 AM\n");
        printf("3. 2:30 PM\n");
        printf("4. 5:30 PM\n");
        printf("5. 9:30 PM\n");
        printf("Enter your choice: ");
        scanf("%d", &timeChoice);

        if (choice>=1 && choice<=3 && timeChoice>=1 &&
timeChoice<=5) {

            for (int i = 0;i<SEATS;i++) {
                selectedSeats[i]=0;
            }
            info(&nn, selectedSeats, 0);
            fullFunction(movies[choice-1][timeChoice-
1].seat,selectedSeats,nn);


            paymentID(selectedSeats,nn);
//function call
```

```
        } else {
            printf("Invalid choice! Please choose again.\n");
        }


        printf("Do you want to continue? (y/n): ");
        char continueChoice;
        scanf(" %c", &continueChoice);
        if (continueChoice=='n' || continueChoice=='N') {
            break;
        }
        printf("Choose The Movie\n");
        printf("1. KALKI\n");
        printf("2. PARADISE\n");
        printf("3. BIG BEN\n");
        printf("4. EXIT\n");
        printf("Enter Your Choice: ");
        scanf("%d", &choice);


    }

    return 0;
}
```