PROGRAM - AIRLINE RESERVATION SYSTEM

```
#include <stdio.h>
#include <conio.h>

#define R 3
#define C 4

struct Booking {
   int row;
   int seat;
};

int seats[R][C] = {0};

void view() {
   int i, j;
   printf("\nSeat Layout (0 = Free, 1 = Booked)\n");
   for(i = 0; i < R; i++) {
      for(j = 0; j < C; j++) {
         printf("%d ", seats[i][j]);
      }
      printf("\n");
   }
}
```

```
void book() {
    struct Booking b;

    printf("\nEnter Row: ");
    scanf("%d", &b.row);
    printf("Enter Seat: ");
    scanf("%d", &b.seat);

    b.row--;
    b.seat--;

    if(b.row < 0 || b.row >= R || b.seat < 0 || b.seat >= C || seats[b.row][b.seat]) {
        printf("Cannot book seat\n");
    } else {
        seats[b.row][b.seat] = 1;
        printf("Seat Booked: Row %d Seat %d\n", b.row + 1, b.seat + 1);
    }
}

void cancel() {
    struct Booking b;

    printf("\nEnter Row: ");
    scanf("%d", &b.row);
    printf("Enter Seat: ");
    scanf("%d", &b.seat);
    b.row--;
    b.seat--;

    if(b.row >= 0 && b.row < R && b.seat >= 0 && b.seat < C && seats[b.row][b.seat]) {
        seats[b.row][b.seat] = 0;
        printf("Seat Cancelled\n");
    } else {
        printf("Invalid seat\n");
    }
}

void report() {
    int i, j;
    int found = 0;

    printf("\nBooked Seats Report\n");
    for(i = 0; i < R; i++) {
        for(j = 0; j < C; j++) {
            if(seats[i][j]) {
                printf("Row %d Seat %d\n", i + 1, j + 1);
                found = 1;
            }
        }
    }
```

```
  if(!found) {
    printf("No seats booked\n");
  }
}

int main() {
  int ch;

  clrscr();

  do {
    printf("\n----- Airline Seat Booking System -----\n");
    printf("1. View Seats\n");
    printf("2. Book Seat\n");
    printf("3. Cancel Seat\n");
    printf("4. Report\n");
    printf("5. Exit\n");
    printf("Enter choice: ");
    scanf("%d", &ch);

    switch(ch) {
      case 1: view(); break;
      case 2: book(); break;
      case 3: cancel(); break;
      case 4: report(); break;
      case 5: printf("\nExiting...\n"); break;
```

```
            default: printf("\nInvalid choice\n");
        }

    } while(ch != 5);

    return 0;
}
```

PROGRAM - SMART PARKING SYSTEM

```
#include <stdio.h>
#include <conio.h>
#include <string.h>

#define MAX 5
#define RATE 20

struct Vehicle {
    char number[15];
    int entry;
};

struct Vehicle park[MAX];
int count = 0;

void add() {
    if(count == MAX) {
        printf("Parking Full\n");
        return;
    }

    printf("Vehicle Number[EG:KA XX AA XXXX]: ");
    scanf("%s", park[count].number);
    printf("Entry Time (hour 0-23): ");
    scanf("%d", &park[count].entry);



    count++;
    printf("Vehicle Parked\n");
}

void removeV() {
    char num[15];
    int i, exitTime, hours;

    printf("Vehicle Number: ");
    scanf("%s", num);



    for(i = 0; i < count; i++) {
        if(strcmp(park[i].number, num) == 0) {

            printf("Exit Time (hour 0-23): ");
            scanf("%d", &exitTime);



            hours = exitTime - park[i].entry;
            if(hours <= 0) hours = 1;

            printf("Fee = Rs.%d\n", hours * RATE);

            park[i] = park[count - 1];
            count--;
            return;
        }
    }

    printf("Vehicle Not Found\n");
}

void display() {
    int i;

    if(count == 0) {
        printf("No Vehicles Parked\n");
        return;
    }

    for(i = 0; i < count; i++)
        printf("%s  Entry:%d\n", park[i].number, park[i].entry);
}

void main() {
  int ch;

  clrscr();

  do {
        printf("\n=== SMART PARKING SYSTEM ===\n");
        printf("1.Add \n 2.Remove\n  3.Display\n  4.Exit\n");
        printf("Choice: ");
        scanf("%d", &ch);


        switch(ch) {
          case 1: add(); break;
          case 2: removeV(); break;
          case 3: display(); break;
          case 4: printf("Exiting...\n"); break;
          default: printf("Invalid Choice\n");
        }

  } while(ch != 4);
}
```