MINI PROJECT

FLIGHT TICKET BOOKING

Academic Year: 2021-22 ODD-SEMESTER

Department with Specialization: B-Tech Biomedical Engineering

Semester	**: 1**
Course Code	**: 18CSS101J**
Course Title	**: Programming for Problem Solving**

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INTRODUCTION

Flight ticket booking (FTB) is a part of so-called passenger service system which are applications supporting direct contact with the passengers. FTB was one of the earliest changes to improve the efficiency.

FTB eventually evolved into computer reservation system(CRS) which is used for the reservation of a particular airline and interfaces with global distribution system(GDS) which supports travel agencies and other distribution channels in making reservation for most major airlines in a single system.

The main purpose of this Flight ticket booking software is to reduce the manual errors involved in the flight ticket booking process and make it convenient for the customers to book the flights as when they require such that they can utilize this software to make Reservations or modify reservations.

AIM

A simple flight ticket booking system in c programming requires the user to choose between Business and Economy class seats. This project then shows available seats, and the user must enter the seat number to reserve the particular seat. After you have reserved a seat, it will no longer be open for other users.

PROJECT OBJECTIVE

The project aims to model the working of an flight ticket booking system. The system should support the following features :

- Separate profile for users, containing all their personal data like name, gender, age etc.
- Possibility of booking for multiple profile at once.
- Display the data of the users who got their reservations done.
- Provides facility of seat allotment to users so that they can book their specific seats if required.

ALGORITHM

- **STEP-1**: START

- **STEP-2**: DECLARE ALL THE FUNCTIONS USED

    1. READ NUMBER OF FLYERS
    2. READ FLYER NAME
    3. READ FLYER GENDER
    4. READ FLYER AGE
    5. READ SOURCE PLACE
    6. READ DESTINATION PLACE
    7. READ FLIGHT NO.
    8. READ CHOICE OF CLASS
    9. READ SEAT NO.

- **STEP-3:** DECLARE THE VARIABLES TO BE USED

- **STEP-4**: GET THE DETAILS FROM THE FLYER IF THE GIVEN INFORMATION IS VALID GO TO THE MAIN SCREEN.

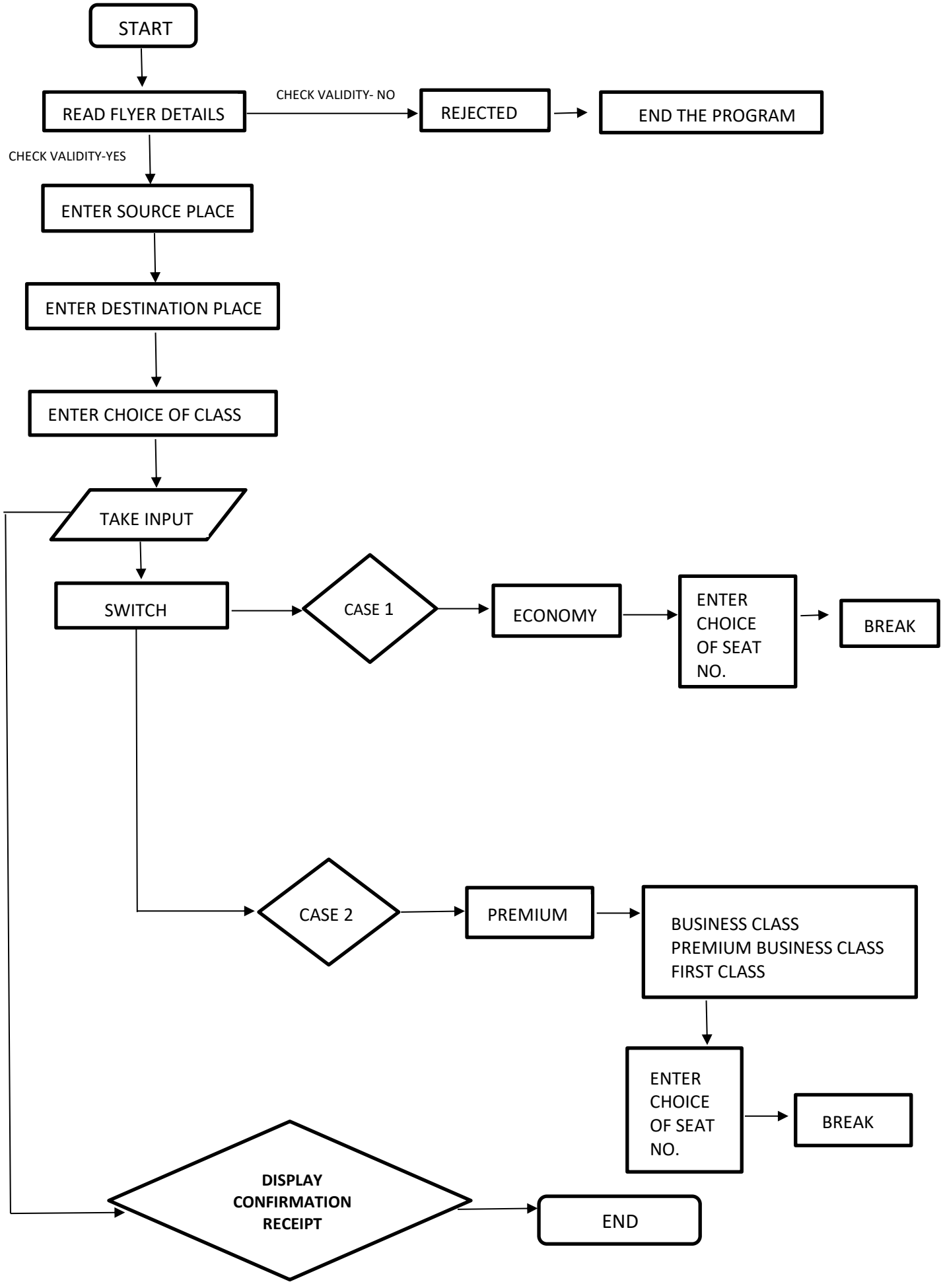
- **STEP-5**: USE SWITCH CASE STATEMENT TO WORK ON EACH CLASS CASE.

    - **CASE-1**: IF THE USER CHOICE IS 1, GO TO ECONOMY CLASS() FUNCTION AND DISPLAY ALL THE SEAT NUMBERS AVILABLE.

    - **CASE-2**: IF THE USER CHOICE IS 2, GO TO PREMIUM CLASS() FUNCTION AND ASK THE USER TO ENTER THE CHOICE OF PREMIUM CLASS. THEN ASK FOR RESPECTIVE SEATS REQUIRED.
      THEN FINALLY DISPLAY THE BILL WITH THE RESPECTIVE BOOKING DETAILS AND AMOUNT.

- **STEP-6**: EXIT THE PROGRAM

FLOW CHART


START
READ FLYER DETAILS
CHECK VALIDITY- NO
REJECTED
END THE PROGRAM
CHECK VALIDITY-YES
ENTER SOURCE PLACE
ENTER DESTINATION PLACE
ENTER CHOICE OF CLASS
TAKE INPUT
SWITCH
CASE 1
ECONOMY
ENTER CHOICE OF SEAT NO.
BREAK
CASE 2
PREMIUM
BUSINESS CLASS
PREMIUM BUSINESS CLASS
FIRST CLASS
ENTER CHOICE OF SEAT NO.
BREAK
DISPLAY CONFIRMATION RECEIPT
END

SOURCE CODE

```
// C program for the above approach
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
// Global variables
char source[20],des[20],flight[40];
int CIA;
char airport[40], cla[40];
int time1, time2, a[55];
// Defining Structure
struct Rec {
        char name[30];
        char gen[10];
        int Age;
};
int details(int);
int seat(int);
int cal(int, int, int);
int bill(int, int);
// Driver Code
int main()
{
        int i, a1, a2, b, c,x = 0, d, e, r;
        char o;
        printf("Enter Number Of Flyers: ");
        fflush(stdin);
        scanf("%d", &CIA);
        // Calling details() function with argument number of passenger
        details(CIA);
        printf("Note:-Due to current Situation we only serve from Chennai. Sorry for the
inconvience\n");
        printf("Enter The Source Place: ");
        fflush(stdin);
        scanf("%s",&source[20]);
        printf("\t\t    Aviable destinations");
        printf("\n");
        printf("-------------------------------------------------\n");
        printf(" S.NO                Flight          Destination     \n");
        printf("-------------------------------------------------\n");
        printf("  1        9W098                   Bengaluru\n");
        printf("  2        6E904                 Bengaluru\n");
        printf("  3        6E045                 Kolkata\n");
        printf("  4        6E049                 Hyderabad\n");
```

```
        printf("  5       9W176                  Hyderabad\n");
        printf("-----------------------------------------------\n");

        printf("\n");
        printf("Enter The Destination Place: ");
        fflush(stdin);
        scanf("%s",&des[20]);
        printf("\n");
        printf("-------------------------------------------------------------------------\n");
        printf("The Following Flights Are Available from Chennai due to the Current
Situation\n");
        printf("-------------------------------------------------------------------------\n");
   printf("\n");
        printf("-------------------------------------------------------------------------\n");
        printf(" S.NO  Flight No.       Flight       Departure       Departure Destination \n");
        printf("-------------------------------------------------------------------------\n");
        printf("  1     9W098          Jet Airways       10:00 a.m     Chennai International
Airport(MAA)\n");
        printf("  2     6E904          Indigo        17:00 p.m     Chennai International
Airport(MAA)\n");
        printf("  3     6E045          Indigo        23:00 p.m     Chennai International
Airport(MAA)\n");
        printf("  4     6E049          Indigo        17:00 p.m     Chennai International
Airport(MAA)\n");
        printf("  5     9W176          Jet Airways       07:00 a.m     Chennai International
Airport(MAA)");
        printf("-------------------------------------------------------------------------\n");

        printf("\n");
        printf("Enter the flight in which you wish to travell----> ");
        scanf("%d", &i);
        do {
                switch (i) {
                case 1: {
                        strcpy(flight,"9W098");
                        strcpy(airport,"Chennai International Airport(MAA)");
                        strcpy(des,"Bengaluru");
                        time1 = 10;
                        time2 = 00;
                        a1 = 2099;
                        a2 = 1560;
                        // Calling cal() function with the three argument and return value
                        d = cal(a1, a2, CIA);
                        printf("Total Bill Amount:%d\n",d);
                }; break;
                case 2: {
```

```
            strcpy(flight,"6E904");
            strcpy(airport,"Chennai International Airport(MAA)");
            strcpy(des,"Bengaluru");
            time1 = 17;
            time2 = 00;
            a1 = 1801;
            a2 = 981;
            // Calling cal() function with the three argument and return value
            d = cal(a1, a2, CIA);
            printf("Total Bill Amount:%d\n",d);
        }; break;
        case 3: {
            strcpy(flight,"6E045 ");
            strcpy(airport,"Chennai International Airport(MAA)");
            strcpy(des,"Kolkata");
            time1 = 23;
            time2 = 00;
            a1 = 2199;
            a2 = 1780;
            // Calling cal() function with the three argument and return value
            d = cal(a1, a2, CIA);
            printf("Total Bill Amount: %d\n", d);
        }; break;
        case 4: {
            strcpy(flight, "6E049");
            strcpy(airport, "Chennai International Airport(MAA)");
            strcpy(des,"Hyderabad");
            time1 = 17;
            time2 = 00;
            a1 = 1759;
            a2 = 1200;
            // Calling cal() function with the three argument and return value
            d = cal(a1, a2, CIA);
            printf("Total Bill Amount: %d\n", d);
        }; break;
        case 5: {
            strcpy(flight, "9W176");
            strcpy(airport, "Chennai International Airport(MAA)");
            strcpy(des,"Hyderabad");
            time1 = 07;
            time2 = 00;
            a1 = 2205;
            a2 = 1905;
            // Calling cal() function with the three argument and return value
            d = cal(a1, a2, CIA);
            printf("Total Bill Amount: %d\n", d);
```

```
                }; break;
                default:
                        printf("Enter Correct choice.....\n");
                        x = 1;
                }break;
        } while (x);
        printf("Now Book Your Seats......\n");
        // Calling seat() function with number of passenger
        seat(CIA);
        // Calling bill() function with the number of passenger and amount argument
        bill(d, CIA);
}
// Function for calculation of amount
int cal(int y1, int y2, int h)
{
        int b, c, i, t, r, n;
        printf("\t\tEnter Your choice of class--->\n");
        printf("\t\t1. Economy class\n");
        printf("\t\t2. Premium Class\n");
        scanf("%d", &i);
        switch (i) {
        case 1: {
                strcpy(cla, "Economy Class");
                b = y2 * h;
                c = b + (b * 0.18);
        } break;
        case 2: {
                printf("\t\tEnter Your Choice of Premium in\n");
                printf("\t\t1. Business Class\n");
                printf("\t\t2. Premium Business Class \n");
                printf("\t\t3. First Class \n");
                scanf("%d", &n);
                switch (n) {
                case 3: {
                        strcpy(cla, "Business Class");
                        b = y1 * h;
                        c = b + (b * 0.18);
                } break;
                case 2: {
                        strcpy(cla, "Premium Business Class");
                        b = (y1 + 1000) * h;
                        c = b + (b * 0.18);
                } break;
                case 1: {
                        strcpy(cla, "First Class");
                        b = (y1 + 5000) * h;
```

```
                        c = b + (b * 0.18);
                } break;
                default: {
                        printf("\t\tEnter Right Choice......\n");
                }}} break;
        default: {
                printf("\t\tEnter Right Choice......\n");
        }break;
        }
        return c;
}
// Function for taking details of passengers
int details(int k)
{
        struct Rec *ptr;
        int i,a;
        ptr = (struct Rec*) malloc(k *sizeof(struct Rec));
        for (i = 0; i < k; i++) {
                printf("Enter The %dth Passenger Name: ", i+1);
                fflush(stdin);
                scanf("%s",&(ptr)->name[i]);
                printf("Enter The %dth Passenger Gender: ", i+1);
                fflush(stdin);
                scanf("%s",&(ptr)->gen[i]);
                printf("Enter The %dth Passenger Age: ", i+1);
                fflush(stdin);
                scanf("%d",&(ptr)->Age);
                printf("Passenger %d details---->\n",i+1);
                printf("%s\n%s\n%d\n",(ptr)->name,(ptr)->gen,(ptr)->Age);
        }
   return 0;
}
// Function for chosing seats
int seat(int p)
{
        int i;
        printf("\t              -:SEAT MATRIX:-     \n");
        printf("\t(U) (M)     (L) (L)  (U)\n\n");
        printf("\t01 02       03\t04        05\n\n");
        printf("\t06 07       08\t09        10\n");
        printf("\t11 12       13\t14        15\n\n");
        printf("\t16 17       18\t19        20\n");
        printf("\t21 22       23\t24        25\n\n");
        printf("\t26 27       28\t29        30\n");
        printf("\t31 32       33\t34        35\n\n");
        printf("\t36 37       38\t39        40\n");
```

```
        printf("\t41 42       43\t44       45\n\n");
        printf("\t46 47       48\t49       50\n");
        printf("\t51 52       53\t54       55\n\n");
        printf("\t56 57       58\t59       60\n");
        printf("\n");
        printf("\n");
        printf("\tEnter Seat Number(s)----> ");
        for (i = 0; i < p; i++){
                scanf("%d", &a[i]);
    }
    return 0;
}
// Function for printing receipt
int bill(int y, int j)
{
        int i;
        printf("\n");
        printf("\n");
        printf("\t\tSource Place: Chennai \n");
        printf("\t\tDestination Place: ");
        puts(des);
        printf("\t\tBoarding Station: ");
        puts(airport);
        printf("\t\tFlight Is: ");
        puts(flight);
        printf("\t\tAllocated Class: ");
        puts(cla);
        printf("\t\tBoarding Time: %d:0%d\n", time1, time2);
        printf("\t\tTotal Bill Amount: %d\n", y);
        printf("\t\tAllocated Seat(s) is/are: ");
        for (i = 0; i < j; i++) {
                printf(" %d ", a[i]);
        }
        printf("\n");
        printf("\n");
        printf("\n");
        printf("\t\t-----------------------------------------\n");
        printf("\t\t              Thank You!               \n");
        printf("\t\t-----------------------------------------\n");

    return 0;
}
```

OUTPUT

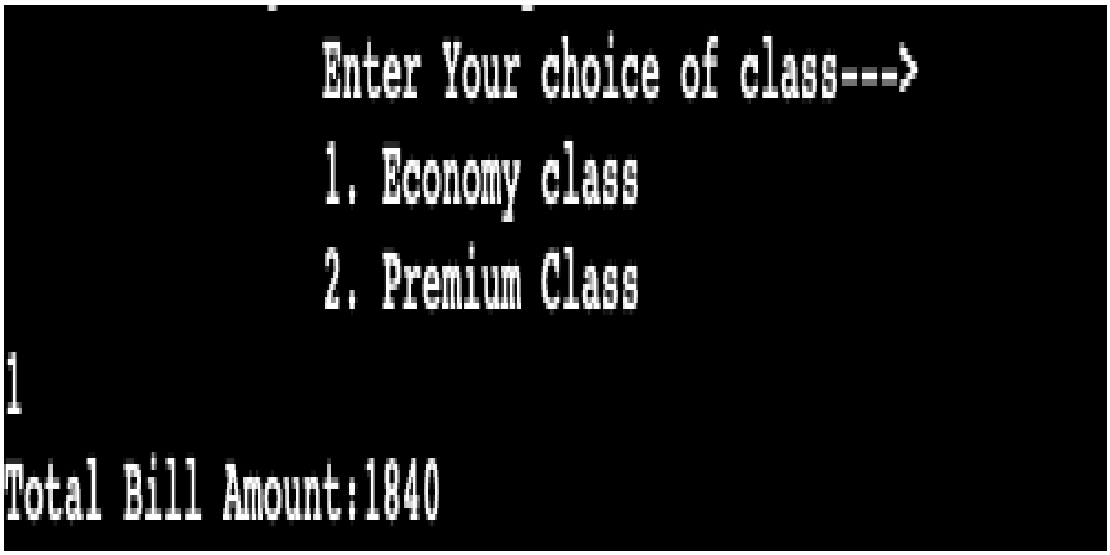
1. After compiling the source code:

```
Enter Number Of Flyers: 1
Enter The 1th Passenger Name: Harinee
Enter The 1th Passenger Gender: Female
Enter The 1th Passenger Age: 18
Passenger 1 details---->
Harinee
Female
18
```

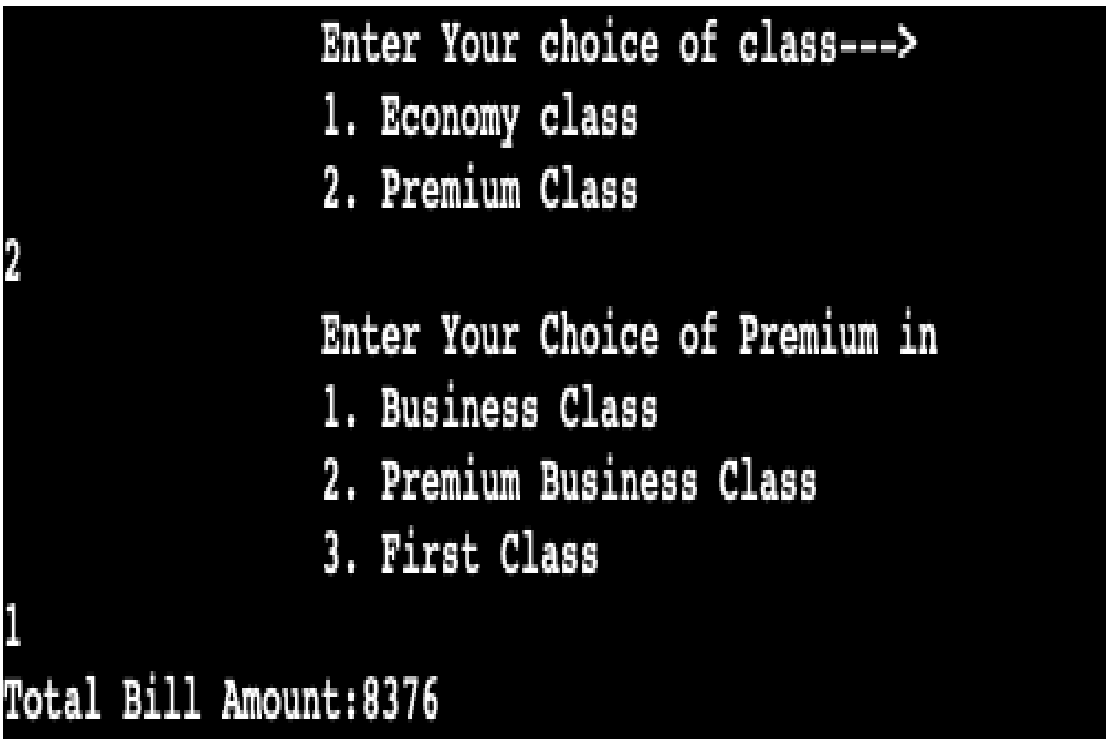
2. Source and Destination page

```
Note:-Due to current Situation we only serve from Chennai. Sorry for the inconvience
Enter The Source Place: Chennai
                  Aviable destinations
-----------------------------------------------
 S.NO          Flight           Destination
-----------------------------------------------
  1        9W098                    Bengaluru
  2        6E904                    Bengaluru
  3        6E045                    Kolkata
  4        6E049                    Hyderabad
  5        9W176                    Hyderabad
-----------------------------------------------

Enter The Destination Place: Bengaluru

-------------------------------------------------------------------------
The Following Flights Are Available from Chennai due to the Current Situation
-------------------------------------------------------------------------


-------------------------------------------------------------------------
 S.NO  Flight No.       Flight       Departure        Departure Destination
-------------------------------------------------------------------------
  1      9W098            Jet Airways        10:00 a.m     Chennai International Airport(MAA)
  2      6E904             Indigo        17:00 p.m     Chennai International Airport(MAA)
  3      6E045             Indigo        23:00 p.m     Chennai International Airport(MAA)
  4      6E049             Indigo        17:00 p.m     Chennai International Airport(MAA)
  5      9W176            Jet Airways        07:00 a.m     Chennai International Airport(MAA)----------------------------
----------------------------------------
```

3. Choice of class (Economy)



4. Choice of class (Premium)



5. Seat Matrix

```
Enter Correct choice.....
Now Book Your Seats......
                        -:SEAT MATRIX:-
        (U) (M)   (L) (L)   (U)

        01 02     03      04        05

        06 07     08      09        10
        11 12     13      14        15

        16 17     18      19        20
        21 22     23      24        25

        26 27     28      29        30
        31 32     33      34        35

        36 37     38      39        40
        41 42     43      44        45

        46 47     48      49        50
        51 52     53      54        55

        56 57     58      59        60


        Enter Seat Number(s)----> 44
```

6.Confirmation receipt (Bill)

```
     Source Place: Chennai
     Destination Place:
     Boarding Station:
     Flight Is:
     Allocated Class:
     Boarding Time: 0:00
     Total Bill Amount: 773386528
     Allocated Seat(s) is/are:  44


     ------------------------------------------
                       Thank You!
     ------------------------------------------
```

RESULT

My project flight ticket booking provides an easy way for booking the flight tickets. My project has succeeded in managing the data and providing the best output.

CONCLUSION

Utilising the concepts of programming embedded in C language, I as an individual have tried my best to create a simple and optimized program that does the work of a Flight Ticket Booking in real life, with a user-friendly terminal for the executable file of the source code. It has also exposed the developers to the intricate technicalities when working with older generation high level languages, in this case C, which is a 3rd generation High Level Language as opposed to modern 4th generation High Level languages like Python, Ruby etc., which has made the three developers appreciate the older generation languages which pioneered the programming scenarios among the general masses while also laying the foundation for the latest generation languages.