Airline Ticket Booking and Management System in C++

**C++ CODE:**

#include <iostream>

#include <fstream>

#include <cstring>

using namespace std;

int book1(int seat[], int num1, int giv1, int code[], char myString[]);

int book2(int seat[], int num2, int giv2, int code[], char myString[]);

int book3(int seat1[], int num3, int giv3, int code1[], char myString[]);

int book4(int seat1[], int num4, int giv4, int code1[], char myString[]);

int main()

{

const int stringLength = 100;

char myString[stringLength];

int sel, num1, num2, num3, num4, giv1 = 0, cnf, id, giv2 = 10, giv3 = 0, giv4 = 10, cel, cntry, amount, tickets, cash, payment, cntry1, cntry2, cancel[20], nu, cri, cri1, crii1, sit, sits, c, jb, crii, d, e;

char know, city;

int code[100], h = 66110; //ASSINING SEATS AND REFERENCE NO FOR PALESTINE CNTRY

for (int y = 0; y < 100; y++)

{

code[y] = h;

h += y;

}

int code1[100], f = 77110; //ASSINING SEATS AND REFERENCE NO FOR TURKEY CNTRY

for (int z = 0; z < 100; z++)

{

code1[z] = f;

f += z;

}

char name[500]; //ASKING NAME AND NO OF SEATS

int seat[20];

for (int k = 0; k < 20; k++)

{

seat[k] = 0;

}

int seat1[20];

for (int k = 0; k < 20; k++)

{

seat1[k] = 0;

}

cout << " WELCOME TO " << endl << " PAKISTAN INTERNATIONAL AIRLINE " << endl << endl;

do

{

cout << " For Booking of seat(s) press 1," << endl << " For Cancelation of seat(s) press 2," << endl << " For Confirmation of seat(s) press 3: ";

cin >> cel;

if (cel == 1)

{

cout << "Which Country You are travelling to (1-PALESTINE, 2-TURKEY):" << endl;

cin >> cntry;

if (cntry == 1)

{

cout << "Please select ticket type " << endl << "1-Business Class,2-Economy Class :" << endl;

cin >> sel;

if (sel == 1)

{

cout << "Enter your Full Name: ";

cin.ignore();

cin.getline(myString, stringLength);

cout << "Ticket Price is Rs120000" << endl;

cout << "How many tickets you want to book (1-10):" << endl;

cin >> num1;

tickets = num1;

cash = 120000 \* tickets;

cout << "Please pay Rs." << cash << " In order to confirm your tickets:";

cin >> amount;

if (amount == cash)

{

giv1 += num1;

num1 = num1 + 1;

cout << endl;

if (giv1 <= 10)

{

book1(seat, num1, giv1, code, myString);

}

else

{

cout << "Your Desired Seats In Business Class Cannot be booked " << endl;

cout << "Next Flight in 3hours " << endl;

cout << "Do you want to Book seat in Economy Class?" << endl << endl;

giv1 = (giv1 - num1) + 1;

}

}

else

{

}

}

else if (sel == 2)

{

cout << "Enter your Full Name: ";

cin.ignore();

cin.getline(myString, stringLength);

cout << "Ticket Price is Rs45500" << endl;

cout << "How many tickets you want to book (1-10): " << endl;

cin >> num2;

cash = 45500 \* num2;

cout << "Please pay Rs." << cash << " In order to confiirm your booking:";

cin >> payment;

if (payment == cash)

{

giv2 += num2;

num2 = num2 + 1;

cout << endl;

if (giv2 <= 20)

{

book2(seat, num2, giv2, code, myString);

}

else

{

cout << "Your Desired Seats In Economy Class Cannot be booked " << endl;

cout << "Next Flight in 3hours " << endl;

cout << "Do you want to Book seat in Business Class?" << endl << endl;

giv2 = (giv2 - num2) + 1;

}

}

else

{

}

}

else

cout << "Invalid input! try again" << endl;

cout << "Do You want to do another booking (Y/N)?" << endl;

cin >> know;

}

else if (cntry == 2)

{

cout << "Please select ticket type " << endl << "1-Business Class,2-Economy Class :" << endl;

cin >> sel;

if (sel == 1)

{

cout << "Enter your Full Name: ";

cin.ignore();

cin.getline(myString, stringLength);

cout << "Ticket Price is Rs265000" << endl;

cout << "How many tickets you want to book (1-10):" << endl;

cin >> num3;

tickets = num3;

cash = 265000 \* tickets;

cout << "Please pay Rs." << cash << " In order to confirm your tickets:";

cin >> amount;

if (amount == cash)

{

giv3 += num3;

num3 = num3 + 1;

cout << endl;

if (giv3 <= 10)

{

book3(seat1, num3, giv3, code1, myString);

}

else

{

cout << "Your Desired Seats In Business Class Cannot be booked " << endl;

cout << "Next Flight in 3hours " << endl;

cout << "Do you want to Book seat in Economy Class?" << endl;

giv3 = (giv3 - num1) + 1;

}

}

else

{

}

}

else if (sel == 2)

{

cout << "Enter your Full Name: ";

cin.ignore();

cin.getline(myString, stringLength);

cout << "Ticket Price is Rs72500" << endl;

cout << "How many tickets you want to book (1-10): " << endl;

cin >> num4;

cash = 72500 \* num4;

cout << "Please pay Rs." << cash << " In order to confiirm your booking:";

cin >> payment;

if (payment == cash)

{

giv4 += num4;

num4 = num4 + 1;

cout << endl;

if (giv4 <= 20)

{

book4(seat1, num4, giv4, code1, myString);

}

else

{

cout << "Your Desired Seats In Economy Class Cannot be booked " << endl;

cout << "Next Flight in 3hours " << endl;

cout << "Do you want to Book seat in Business Class?" << endl;

giv4 = (giv4 - num2) + 1;

}

}

else

{

}

}

else

cout << "Invalid input! try again" << endl << endl;

cout << "Do You want to do another booking (Y/N)?" << endl << endl;

cin >> know;

}

else

{

}

}

else if (cel == 2)

{

cout << "Which country flight did you booked(1-PALESTINE, 2-TURKEY) ?" << endl;

cin >> cntry1;

if (cntry1 == 1)

{

int b;

cout << "1-Business or 2-Economy:" << endl;

cin >> cri;

if (cri == 1)

{

cout << " Due to our policy 30% of amount will be deducted on cancelation of ticktets:" << endl;

cout << "How many seats do you want to cancel:" << endl;

cin >> nu;

for (int i = 0; i < nu; i++)

{

cout << "Please enter your seat number:";

cin >> cancel[i];

b = cancel[i];

c = seat[b];

if (c == 1)

{

seat[b] = 0;

cout << "Your Seat(s) have been cancelled. Please take your cash of Rs.4900" << " From counter" << endl << endl << endl;

}

else if (c == 0)

{

cout << "Sorry the seat wasnt booked!! try Your own Seat number." << endl << endl;

}

}

}

else if (cri == 2)

{

cout << " Due to our policy 30% of amount will be deducted on cancelation of ticktets:" << endl;

cout << "How many seats do you want to cancel:" << endl;

cin >> nu;

for (int i = 0; i < nu; i++)

{

cout << "Please enter your seat number:";

cin >> cancel[i];

b = cancel[i];

c = seat[b];

if (c == 1)

{

seat[b] = 0;

cout << "Your Seat(s) have been cancelled. Please take your cash of Rs.2800" << " From counter" << endl << endl << endl;

}

else if (c == 0)

{

cout << "Sorry the seat wasnt booked!! try Your own Seat number." << endl << endl;

}

}

}

}

else if (cntry1 == 2)

{

int b;

cout << "1-Business or 2-Economy:" << endl;

cin >> crii;

if (crii == 1)

{

cout << " Due to our policy 30% of amount will be deducted on cancelation of ticktets:" << endl;

cout << "How many seats do you want to cancel:" << endl;

cin >> jb;

for (int i = 0; i < jb; i++)

{

cout << "Please enter your seat number:";

cin >> cancel[i];

d = cancel[i];

e = seat1[d];

if (c == 1)

{

seat1[d] = 0;

cout << "Your Seat(s) have been cancelled. Please take your cash of Rs.7000" << " From counter" << endl << endl << endl;

}

else if (e == 0)

{

cout << "Sorry the seat wasnt booked!! try Your own Seat number." << endl << endl;

}

}

}

else if (crii == 2)

{

cout << " Due to our policy 30% of amount will be deducted on cancelation of ticktets:" << endl;

cout << "How many seats do you want to cancel:" << endl;

cin >> jb;

for (int i = 0; i < jb; i++)

{

cout << "Please enter your seat number:";

cin >> cancel[i];

d = cancel[i];

e = seat1[d];

if (e == 1)

{

seat1[d] = 0;

cout << "Your Seat(s) have been cancelled. Please take your cash of Rs.5600" << " From counter" << endl << endl << endl;

}

else if (e == 0)

{

cout << "Sorry the seat wasnt booked!! try Your own Seat number." << endl << endl;

}

}

}

}

cout << "Do You want to do another booking (Y/N)?" << endl << endl;

cin >> know;

}

else if (cel == 3)

{

cout << "Which country flight do you want to confirm(1-PALESTINE, 2-TURKEY) ?" << endl;

cin >> cntry2;

if (cntry2 == 1)

{

cout << "Which seat u want to confirm(1-Business Class, 2-Economy Class)?";

cin >> cri1;

if (cri1 == 1)

{

cout << "How many seats you want to confirm?" << endl;

cin >> sit;

for (int g = 1; g <= sit; g++)

{

cout << "Enter The seat " << g << " Number and referrence id:";

cin >> cnf;

cin >> id;

if (seat[cnf] == 1 && code[cnf] == id)

{

cout << "Your seat " << cnf << " in Business Class is confirmed for PALESTINE" << endl << endl;

}

else

cout << "Sorry! Seat not booked" << endl << endl;

}

}

else if (cri1 == 2)

{

cout << "How many seats you want to confirm?" << endl;

cin >> sit;

for (int g = 1; g <= sit; g++)

{

cout << "Enter The seat " << g << " Number and referrence id:";

cin >> cnf;

cin >> id;

if (seat[cnf] == 1 && code[cnf] == id)

{

cout << "Your seat " << cnf << " in Economy Class is confirmed for United States" << endl << endl;

}

else

cout << "Sorry! Seat not booked" << endl << endl;

}

}

}

else if (cntry2 == 2)

{

cout << "Which seat u want to confirm(1-Business Class, 2-Economy Class)?" << endl;

cin >> crii1;

if (crii1 == 1)

{

cout << "How many seats you want to confirm?" << endl;

cin >> sits;

for (int g = 1; g <= sits; g++)

{

cout << "Enter The seat " << g << " Number and referrence id:";

cin >> cnf;

cin >> id;

if (seat1[cnf] == 1 && code1[cnf] == id)

{

cout << "Your seat " << cnf << " in Business Class is confirmed for TURKEY" << endl << endl;

}

else

cout << "Sorry! Seat not booked" << endl << endl;

}

}

else if (crii1 == 2)

{

cout << "How many seats you want to confirm?" << endl;

cin >> sits;

for (int g = 1; g <= sits; g++)

{

cout << "Enter The seat " << g << " Number and referrence id:";

cin >> cnf;

cin >> id;

if (seat1[cnf] == 1 && code1[cnf] == id)

{

cout << "Your seat " << cnf << " in Economy Class is confirmed for TURKEY" << endl << endl;

}

else

cout << "Sorry! Seat not booked" << endl << endl;

}

}

}

}

} while (know == 'Y' || know == 'y');

cout << endl << endl;

cout << "ThankYou for visiting us " << endl << endl << "Have A Safe Journey " << endl << endl;

system("pause");

return 0;

}

void writeToLogFile(const char\* filename, const char\* data) {

ofstream outputFile(filename, ios::app);

if (outputFile.is\_open()) {

outputFile << data << endl;

outputFile.close();

}

else {

cerr << "Unable to open the file " << filename << " for writing!" << endl;

}

}

int book1(int seat[], int num1, int giv1, int code[], char myString[]) {

int i, knw1;

ofstream logFile("booking\_log.txt", ios::app);

for (i = 1; i <= giv1; i++) {

knw1 = seat[i];

if (knw1 == 0) {

seat[i] = 1;

char bookingInfo[200];

sprintf\_s(bookingInfo, "Seat no:%d Booked in business class For %s To PALESTINE With ticket reference: %d", i, myString, code[i]);

writeToLogFile("booking\_log.txt", bookingInfo);

cout << " Seat no:" << i << " Booked in business class " << "For " << myString << " To PALESTINE" << endl << " With ticket reference:" << code[i] << endl << endl << endl;

}

else if (knw1 != 0) {

continue;

}

}

return i;

}

int book2(int seat[], int num2, int giv2, int code[], char myString[]) {

int J, knw2;

ofstream logFile("booking\_log.txt", ios::app);

for (J = 11; J <= giv2; J++) {

knw2 = seat[J];

if (knw2 == 0) {

seat[J] = 1;

char bookingInfo[200];

sprintf\_s(bookingInfo, "Seat no:%d Booked in business class For %s To PALESTINE With ticket reference: %d", J, myString, code[J]);

writeToLogFile("booking\_log.txt", bookingInfo);

cout << " Seat no:" << J << " Booked in business class " << "For " << myString << " To PALESTINE" << endl << " With ticket reference:" << code[J] << endl << endl << endl;

}

else if (knw2 == 1) {

continue;

}

}

return J;

}

int book3(int seat[], int num3, int giv3, int code[], char myString[]) {

int i, knw1;

ofstream logFile("booking\_log.txt", ios::app);

for (i = 1; i <= giv3; i++) {

knw1 = seat[i];

if (knw1 == 0) {

seat[i] = 1;

char bookingInfo[200];

sprintf\_s(bookingInfo, "Seat no:%d Booked in business class For %s To TURKEY With ticket reference: %d", i, myString, code[i]);

writeToLogFile("booking\_log.txt", bookingInfo);

cout << " Seat no:" << i << " Booked in business class " << "For " << myString << " To TURKEY" << endl << " With ticket reference:" << code[i] << endl << endl << endl;

}

else if (knw1 != 0) {

continue;

}

}

return i;

}

int book4(int seat[], int num4, int giv4, int code[], char myString[]) {

int J, knw2;

ofstream logFile("booking\_log.txt", ios::app);

for (J = 11; J <= giv4; J++) {

knw2 = seat[J];

if (knw2 == 0) {

seat[J] = 1;

char bookingInfo[200];

sprintf\_s(bookingInfo, "Seat no:%d Booked in business class For %s To TURKEY With ticket reference: %d", J, myString, code[J]);

writeToLogFile("booking\_log.txt", bookingInfo);

cout << " Seat no:" << J << " Booked in business class " << "For " << myString << " To TURKEY" << endl << " With ticket reference:" << code[J] << endl << endl << endl;

}

else if (knw2 == 1) {

continue;

}

}

return J;

}