

Program:

```
#include<iostream>
#include<conio.h>
#include<fstream>
#include<sstream>
#include<string>
#include<cstdlib>
#include<windows.h>
#include<iomanip>
#include<time.h>
using namespace std;

const int LINELENGTH = 80;

enum Position{ LEFT, CENTRE, RIGHT };

void clearScreen()
{
    system("cls");
    cout << "Click 'ctrl + c' to exit the program." << endl;
}

void wait(int time = 800)
{
    Sleep(time);
}

int generateRandomId(){
    wait();
    srand(time(0));
    return rand();
}

void print( Position pos, string s, int linelength )
{
    int spaces = 0;
    switch( pos )
    {
        case CENTRE: spaces = ( linelength - s.size() ) / 2; break;
        case RIGHT : spaces = linelength - s.size() ; break;
    }
    if ( spaces > 0 ) cout << string( spaces, ' ' );
    cout << s << '\n';
}

void print(int LINELENGTH){
    string border(LINELENGTH, '=');
    cout << border << endl;
    print( CENTRE, "Welcome To Travel Agency System", LINELENGTH );
    cout << endl << border << endl;
}

void printMainMenu(int LINELENGTH){
    print(CENTRE, "Travel Agency Menu", LINELENGTH);
    cout << "\n 1. Plan new trip." << endl;
    cout << " 2. Cancel Trip." << endl;
    cout << " 3. Exit." << endl;
    cout << "\n Choose One: ";
}

class Transport{
```

```

protected:
int transport_id;
string transport_type;
int transport_cost;

public:
Transport(){
    transport_id = 0;
    transport_type = "";
    transport_cost = 0;
}

void getTransportDetails(int tripOption){
    // assigning id
    transport_id = generateRandomId();

    //input transport type
    cout << "\n Enter(exact word) transport type from the following " <<
endl;

    string border(LINELENGTH, '*');
    cout << endl << border;
    cout << "|" << left << setw(20) << " " << " | " << left << setw(55) <<
"Transport type" << right << "|";
    cout << border;
    cout << "|" << left << setw(20) << " 1" << " | " << left << setw(55) <<
"Bus" << right << "|";
    cout << "|" << left << setw(20) << " 2" << " | " << left << setw(55) <<
"Flight" << right << "|";
    cout << "|" << left << setw(20) << " 3" << " | " << left << setw(55) <<
"Train" << right << "|";
    cout << "|" << left << setw(20) << " 4" << " | " << left << setw(55) <<
"Cab" << right << "|";
    cout << border << endl;
    cout << ": ";
    getline(cin, transport_type);

    // assigning the transport cost
    if(transport_type == "Bus" || transport_type == "bus" || transport_type
== "BUS"){
        transport_cost = 1200 * tripOption;
    }else if(transport_type == "Flight" || transport_type == "flight" ||
transport_type == "BUS"){
        transport_cost = 4500 * tripOption;
    }else if(transport_type == "Train" || transport_type == "train" ||
transport_type == "TRAIN"){
        transport_cost = 900 * tripOption;
    }else if(transport_type == "Cab" || transport_type == "cab" ||
transport_type == "CAB"){
        transport_cost = 4000 * tripOption;
    }else {
        transport_cost = 3000;
    }
}

void bookTransport(int trip_id){
    ofstream fout;
    fout.open("transport-details.txt", ios::app);
    fout << trip_id << " " << transport_id << " " << transport_type << " " <<
transport_cost << endl;

```

```

        fout.close();
    }

    void cancelTransport(int delete_trip_id){
        ifstream fin;
        string readLine;
        ofstream fout;

        fin.open("transport-details.txt", ios::in);
        if(fin.is_open())
        {
            while(getline(fin, readLine))
            {
                int fileTripId = 0;
                int size = readLine.length();
                char tripD[size+1];
                int temp = 0, i=0;
                strcpy(tripD, readLine.c_str());
                while((temp = tripD[i++]) != 32)
                    fileTripId = fileTripId * 10 + (temp - 48);
                if(fileTripId != delete_trip_id)
                {
                    fout.open("temp.txt", ios::app);
                    fout<<readLine<<endl;
                    fout.close();
                }
            }
            fin.close();
        }
        remove("transport-details.txt");
        rename("temp.txt", "transport-details.txt");
    }
};

class Hotel{
protected:
    string hotel_name;
    string check_in_date;
    string check_out_date;
    int hotel_cost;

public:
    Hotel() {
        hotel_name = "";
        check_in_date = "";
        check_out_date = "";
        hotel_cost = 0;
    }

    void printHotelMenu(int LINELENGTH){
        string border(LINELENGTH, '*');
        cout << endl << border;
        cout << "|" << left << setw(20) << "Sr No." << " | " << left << setw(30)
<< "Hotel Name" << " | " << left << setw(22) << "Price/Day" << right << "|";
        cout << border;
        cout << "|" << left << setw(20) << " 1" << " | " << left << setw(30) <<
"ITC Gardenia" << " | " << left << setw(22) << "5000" << right << "|";
        cout << "|" << left << setw(20) << " 2" << " | " << left << setw(30) <<
"Novotel" << " | " << left << setw(22) << "3000" << right << "|";
        cout << "|" << left << setw(20) << " 3" << " | " << left << setw(30) <<
"Woodville Palace" << " | " << left << setw(22) << "2500" << right << "|";
    }
};

```

```

        cout << "|" << left << setw(20) << " 4" << " | " << left << setw(30) <<
"Ibis" << " | " << left << setw(22) << "2000" << right << "|";
        cout << border << endl;
    }

    void setHotelNameCost(int& hotelOption){
        SelectHotel:
            cout << "\n Enter Hotel sr.no: ";
            cin >> hotelOption;

        cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');
        switch(hotelOption){
            case 1: hotel_name = "ITC Gardenia";
                    hotel_cost = 5000;
                    break;

            case 2: hotel_name = "Novotel";
                    hotel_cost = 3000;
                    break;

            case 3: hotel_name = "Woodville Palace";
                    hotel_cost = 2500;
                    break;

            case 4: hotel_name = "Ibis";
                    hotel_cost = 2000;
                    break;
            default: cout << "\n Enter Correct option from
above..." << endl;

                                goto SelectHotel;

            break;

        }

    }

    void getHotelDetails(int LINELENGTH){
        int hotelOption = 0;
        printHotelMenu(LINELENGTH);
        setHotelNameCost(hotelOption);
        cout << " Checkin date: ";
        getline(cin, check_in_date);
        cout << " Checkout date: ";
        getline(cin, check_out_date);
    }

    void bookHotel(int trip_id){
        ofstream fout;
        fout.open("Hotel-details.txt", ios::app);
        fout << trip_id << " " << hotel_name << " " << check_in_date << " " <<
check_out_date << " " << hotel_cost << endl;
        fout.close();
    }

    void cancelHotel(int delete_trip_id){
        ifstream fin;
        string readLine;
        ofstream fout;

        fin.open("Hotel-details.txt", ios::in);
        if(fin.is_open())
        {
            while(getline(fin, readLine))

```

```

        {
            int fileTripId = 0;
            int size = readLine.length();
            char tripD[size+1];
            int temp = 0, i=0;
            strcpy(tripD, readLine.c_str());
            while((temp = tripD[i++]) != 32)
                fileTripId = fileTripId * 10 + (temp - 48);
            if(fileTripId != delete_trip_id)
            {
                fout.open("temp.txt", ios::app);
                fout<<readLine<<endl;
                fout.close();
            }
        }
        fin.close();
    }
    remove("Hotel-details.txt");
    rename("temp.txt", "Hotel-details.txt");
}

};

class Traveller {
protected:
    string name;
    string address;
    string contact;
    string gender;

public:
    Traveller(){
        name = "";
        address = "";
        gender = "";
        contact = "";
    }

    void setTDetails(){
        cout << "\n Name: ";
        getline(cin, name);
        cout << " Gender(M/F): ";
        getline(cin, gender);
        cout << " Address: ";
        getline(cin, address);
        cout << " Contact: ";
        getline(cin, contact);
    }

    void storeTDetails(int trip_id){
        ofstream fout;
        fout.open("traveller-details.txt", ios::app);
        fout << trip_id << " " << name << " " << gender << " " << address << " "
<< contact << endl;
        fout.close();
    }

    void deleteTravellerDetails(int delete_trip_id){
        ifstream fin;
        string readLine;
        ofstream fout;

        fin.open("traveller-details.txt", ios::in);

```

```

        if(fin.is_open())
        {
            while(getline(fin, readLine))
            {
                int fileTripId = 0;
                int size = readLine.length();
                char tripD[size+1];
                int temp = 0, i=0;
                strcpy(tripD, readLine.c_str());
                while((temp = tripD[i++]) != 32)
                    fileTripId = fileTripId * 10 + (temp - 48);
                if(fileTripId != delete_trip_id)
                {
                    fout.open("temp.txt", ios::app);
                    fout<<readLine<<endl;
                    fout.close();
                }
            }
            fin.close();
        }
        remove("traveller-details.txt");
        rename("temp.txt", "traveller-details.txt");
    }
};

class Receipt {
protected:
    int receipt_id;
    int sub_total;
    int tax;
    int grand_total;

public:
    Receipt() {
        receipt_id = 0;
        sub_total = 0;
        tax = 0;
        grand_total = 0;
    }

    void generateReceipt(int trip_id, int transport_cost, int hotel_cost, int
noOfDays, string name){
        receipt_id = generateRandomId();

        sub_total = (hotel_cost * noOfDays) + transport_cost;
        tax = (sub_total * 18)/100;
        grand_total = sub_total + tax;
        cout << grand_total << endl;
        printReceipt(trip_id, sub_total, tax, grand_total, transport_cost,
hotel_cost, noOfDays, name);
    }

    void printReceipt(int trip_id, int sub_total, int tax, int grand_total, int
transport_cost, int hotel_cost, int noOfDays, string name){
        int hotelTotal = sub_total - transport_cost;

        clearScreen();
        string border(LINELENGTH, '^');
        cout << border;
        print(CENTRE, "Trip Booked", LINELENGTH);
        cout << endl << border;
        cout << "Receipt -> Loading...";
    }
};

```

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        wait(4000);
        clearScreen();
        print(LINELENGTH);
        cout << border;
        print(CENTRE, "Booking Receipt", LINELENGTH);
        cout << endl << border;
        cout << "Trip Id: " << trip_id << endl;
        cout << "Name: " << name << endl;
        cout << "Days(stay): " << noOfDays << endl;
        cout << endl << border;
        cout << left << setw(20) << "SR.NO" << left << setw(20) << "Description"
<< right << setw(40) << "Total Price";
        cout << endl << border;
        cout << left << setw(20) << "01" << left << setw(20) << "Transport" <<
right << setw(40) << setprecision(2) << transport_cost;
        cout << left << setw(20) << "02" << left << setw(20) << "Hotel" << right
<< setw(40) << setprecision(2) << hotelTotal;
        cout << left << setw(60) << " " << right << setfill('-') << setw(20) <<
"-";

        cout << left << setfill(' ') << setw(40) << " " << left << setw(20) <<
"SUBTOTAL:" << right << setw(20) << sub_total;
        cout << left << setw(40) << " " << left << setw(20) << "TAX(18%):" <<
right << setw(20) << tax;
        cout << left << setw(40) << " " << left << setw(20) << "GRAND TOTAL:" <<
right << setw(20) << grand_total;
        cout << endl << border;

    }

    void storeReceipt(int trip_id, int transport_cost, int hotel_cost, int
noOfDays, string name){

        generateReceipt(trip_id, transport_cost, hotel_cost, noOfDays, name);
        ofstream fout;
        fout.open("Receipt-details.txt", ios::app);
        fout << trip_id << " " << receipt_id << " " << sub_total << " " <<
grand_total << endl;
        fout.close();

    }

    void deleteReceipt(int delete_trip_id){
        ifstream fin;
        string readLine;
        ofstream fout;

        fin.open("Receipt-details.txt", ios::in);
        if(fin.is_open())
        {
            while(getline(fin, readLine))
            {
                int fileTripId = 0;
                int size = readLine.length();
                char tripD[size+1];
                int temp = 0, i=0;
                strcpy(tripD, readLine.c_str());
                while((temp = tripD[i++]) != 32)
                    fileTripId = fileTripId * 10 + (temp - 48);
                if(fileTripId != delete_trip_id)
                {
                    fout.open("temp.txt", ios::app);
                    fout<<readLine<<endl;

```

```

        fout.close();
    }
    }
    fin.close();
}
remove("Receipt-details.txt");
rename("temp.txt", "Receipt-details.txt");
}
};

class Trip:public Traveller, Transport, Hotel, Receipt{
protected:
    int trip_id;
    string trip_start_date;
    string trip_end_date;
    string trip_to;
    string trip_from;
    int noOfDays;

public:
    Trip() {
        trip_id = 0;
        trip_start_date = "";
        trip_end_date = "";
        trip_to = "";
        trip_from = "";
        noOfDays = 0;
    }

    void printTripMenu(int LINELENGTH){

        string border(LINELENGTH, '*');
        cout << endl << border;
        cout << "|" << left << setw(20) << " Trip option" << " | " << left <<
setw(55) << "Trip route" << right << "|";
        cout << border;
        cout << "|" << left << setw(20) << " 1" << " | " << left << setw(55) <<
"Goa to Bangalore" << right << "|";
        cout << "|" << left << setw(20) << " 2" << " | " << left << setw(55) <<
"Goa to Mumbai" << right << "|";
        cout << "|" << left << setw(20) << " 3" << " | " << left << setw(55) <<
"Goa to Delhi" << right << "|";
        cout << "|" << left << setw(20) << " 4" << " | " << left << setw(55) <<
"Goa to Shimla" << right << "|";
        cout << border << endl;

    }

    void setTripDestinations(int& tripOption){
        SelectTrip:  cout << " Enter trip option: ";
                    cin >> tripOption;

        cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');
        switch(tripOption){
            case 1: trip_from = "Goa";
                    trip_to = "Bengaluru";
                    break;

            case 2: trip_from = "Goa";
                    trip_to = "Mumbai";
                    break;

```



```

        case 3: trip_from = "Goa";
                trip_to = "Delhi";
        break;

        case 4: trip_from = "Goa";
                trip_to = "Shimla";
        break;
        default: cout << "\n Enter Correct option from
above..." << endl;

                                goto SelectTrip;
        break;
    }

}

void getTripDetails(int LINELENGTH){
    int tripOption = 0;
    trip_id = generateRandomId();

    // set traveller details
    print(CENTRE,"Traveller Details", LINELENGTH);
    setTDetails();
    cout << endl;

    // set trip details
    print(CENTRE,"Trip Details", LINELENGTH);

    printTripMenu(LINELENGTH);
    setTripDestinations(tripOption);
    cout << " Trip start date: ";
    getline(cin, trip_start_date);
    cout << " Trip end date: ";
    getline(cin, trip_end_date);
    cout << " Days(stay): ";
    cin >> noOfDays;
    cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');
    cout << endl;

    //set transport details
    print(CENTRE,"Transport Details", LINELENGTH);
    getTransportDetails(tripOption);
    cout << endl;

    // set hotel details
    print(CENTRE,"Hotel Details", LINELENGTH);
    getHotelDetails(LINELENGTH);

}

void storeTripDetails(){
    ofstream fout;
    fout.open("trip-details.txt", ios::app);
    fout << trip_id << " " << trip_start_date << " " << trip_end_date << " "
<< trip_from << " " << trip_to << " " << noOfDays << endl;
    fout.close();
}

void bookTrip(int LINELENGTH){
    clearScreen();
    print(LINELENGTH); // prints the header
    getTripDetails(LINELENGTH);
}

```

```

        storeTDetails(trip_id);
        bookTransport(trip_id);
        bookHotel(trip_id);
        storeTripDetails();
        storeReceipt(trip_id, transport_cost, hotel_cost, noOfDays, name);
    }

void deleteTripDetails(int delete_trip_id){
    clearScreen();
    print(LINELENGTH);

    ifstream fin;
    string readLine;
    ofstream fout;

    fin.open("trip-details.txt", ios::in);
    if(fin.is_open())
    {
        while(getline(fin, readLine))
        {
            int fileTripId = 0;
            int size = readLine.length();
            char tripD[size+1];
            int temp = 0, i=0;
            strcpy(tripD, readLine.c_str());
            while((temp = tripD[i++]) != 32)
                fileTripId = fileTripId * 10 + (temp - 48);
            if(fileTripId != delete_trip_id)
            {
                fout.open("temp.txt", ios::app);
                fout<<readLine<<endl;
                fout.close();
            }
        }
        fin.close();
    }
    remove("trip-details.txt");
    rename("temp.txt", "trip-details.txt");
}

void cancelTrip(){
    string border(LINELENGTH, '^');
    int delete_trip_id = 0;

    cout << "Enter trip id of the trip to be cancelled: ";
    cin >> delete_trip_id;
    cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');

    deleteTripDetails(delete_trip_id);
    cancelTransport(delete_trip_id);
    cancelHotel(delete_trip_id);
    deleteTravellerDetails(delete_trip_id);
    deleteReceipt(delete_trip_id);

    cout << border;
    print(CENTRE, "Trip Cancelled", LINELENGTH);
    cout << endl << border;
}

};

int main()

```

```

{
    clearScreen();
    system("title Travel Agency System");

    // Variables
    int chooseOneFromMenu = 0;
    char exitSurity;
    Trip tripObject;

    // menu
    MainMenu:
        clearScreen();
        print(LINELENGTH);
        printMainMenu(LINELENGTH);
        cin >> chooseOneFromMenu;
        cin.ignore(std::numeric_limits<std::streamsize>::max(), '\n');

    switch (chooseOneFromMenu)
    {
    case 1:
        tripObject.bookTrip(LINELENGTH);
        break;
    case 2:
        tripObject.cancelTrip();
        break;
    case 3:
        ExitProgram:
            cout << "Program terminating. Are you sure? (Y/N): ";
            cin >> exitSurity;
            if (exitSurity == 'y' || exitSurity == 'Y') {
                return 0;
            }else if (exitSurity == 'n' || exitSurity == 'N') {
                clearScreen();
                goto MainMenu;
            }else {
                cout << "Next time choose after read the corresponding line." <<
endl;
                goto ExitProgram;
            }
            break;
    default:
        cout << "Please choose between 1 - 3.";
        clearScreen();
        system("PAUSE");
        goto MainMenu;
        break;
    }
    system("PAUSE");
    goto MainMenu;
    return 0;
}

```

Output:

```
Travel Agency System
Click 'ctrl + c' to exit the program.
=====
Welcome To Travel Agency System
=====
Travel Agency Menu
1. Plan new trip.
2. Cancel Trip.
3. Exit.
Choose One: 1
```

```
Travel Agency System
Click 'ctrl + c' to exit the program.
=====
Welcome To Travel Agency System
=====
Traveller Details
Name: Chaitanya Chanekar
Gender(M/F): M
Address: Pilar
Contact: 987654321
Trip Details
=====
| Trip option      | Trip route
=====
| 1                | Goa to Bangalore
| 2                | Goa to Mumbai
| 3                | Goa to Delhi
| 4                | Goa to Shimla
=====
```

```
Travel Agency System
Trip Details
=====
| Trip option      | Trip route
=====
| 1                | Goa to Bangalore
| 2                | Goa to Mumbai
| 3                | Goa to Delhi
| 4                | Goa to Shimla
=====
Enter trip option: 1
Trip start date: 20-2-22
Trip end date: 25-2-22
Days(stay): 4
Transport Details
Enter(exact word) transport type from the following
=====
|                | Transport type
=====
| 1              | Bus
=====
```

Travel Agency System

Days(stay): 4

Transport Details

Enter(exact word) transport type from the following

```

*****
|                                     |
|                                     | Transport type |
|                                     |
| 1 | Bus |
| 2 | Flight |
| 3 | Train |
| 4 | Cab |
|                                     |
*****
: Bus
  
```

Travel Agency System

Hotel Details

```

*****
|Sr No. | Hotel Name | Price/Day |
|-----|-----|-----|
| 1 | ITC Gardenia | 5000 |
| 2 | Novotel | 3000 |
| 3 | Woodville Palace | 2500 |
| 4 | Ibis | 2000 |
|-----|-----|-----|
*****
  
```

Enter Hotel sr.no: 2
 Checkin date: 21-2-22
 Checkout date: 24-2-22

Travel Agency System

Click 'ctrl + c' to exit the program.

Trip Booked

Receipt -> Loading...

Receipt:

```
Travel Agency System
Click 'ctrl + c' to exit the program.
=====
Welcome To Travel Agency System
=====
Booking Receipt
=====
Trip Id: 6480
Name: Chaitanya Chanekar
Days(stay): 4
=====
SR.NO      Description      Total Price
=====
01          Transport      4000
02          Hotel          12000
=====
                        SUBTOTAL:      16000
                        TAX(18%):      2880
                        GRAND TOTAL:    18880
=====
Press any key to continue . . .
```

File system: after booking

Name

- .git
- .gitattributes
- Hotel-details.txt
- Receipt-details.txt
- transport-details.txt
- travel.cpp
- travel.cpp~
- travel.exe
- travel.o
- traveller-details.txt
- trip-details.txt

```
Hotel-details.txt - Notepad
File Edit Format View Help
6480 Novotel 21-2-22 24-2-22 3000
```

```
Receipt-details.txt - Notepad
File Edit Format View Help
6480 7090 16000 18880
```

transport-details.txt - Notepad

File Edit Format View Help

6480 6587 Cab 4000

traveller-details.txt - Notepad

File Edit Format View Help

6480 Chaitanya Chanekar M Pilar 987654321

trip-details.txt - Notepad

File Edit Format View Help

6480 20-2-22 25-2-22 Goa Bengaluru 4

Canceling Trip:

Travel Agency System

Click 'ctrl + c' to exit the program.

=====

 Welcome To Travel Agency System

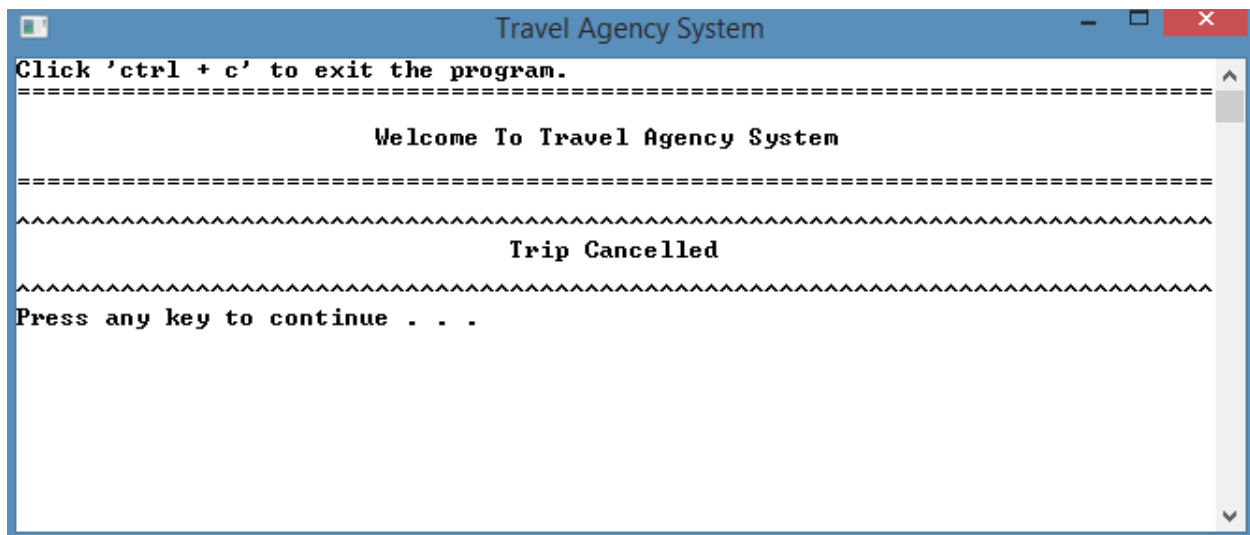
=====

 Travel Agency Menu

1. Plan new trip.
2. Cancel Trip.
3. Exit.

Choose One: 2

Enter trip id of the trip to be cancelled: 6480



File system after cancelling trip:

