

Computer Science Project

# Railways Reservation System



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## Bonafide Certificate

This is to certify that the project entitled “Railways Reservation System” is a record of bonafide work carried out by Master \_\_\_\_\_ of class XII-C studying in DPS-Modern Indian School, Doha-Qatar, during the academic year 2019-2020 under the guidance of Ms.Beena Hassina in partial fulfillments of the requirements for AISSCE Computer Science Practical Exam.

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# INTRODUCTION:

## What is E-ticketing?

The e-ticketing service is an online ticket booking tool through which passengers can book trains for their travel directly through the internet.

An electronic ticket, often called e-ticket, is the digital ticket equivalent of a paper ticket. The term is most commonly associated with airline issued tickets. Electronic ticketing for urban or rail public transport is usually referred to as travel card or transit pass. It is also used in ticketing in the entertainment industry. An electronic ticket system is a more efficient method of ticket entry, processing and marketing for companies in the airline, railways and other transport and entertainment industries.

The C++ Program is about implementing a 'RAILWAY RESERVATION SYSTEM', which allows the user to make and manage their railway bookings.

We have utilized and involved the following C++ topics in the development of the Railways Reservation System (RRS).

- Data file handling
- Classes and objects
- Functions

# PROJECT SUMMARY

This project is a representation of the e-ticketing service which is used to book trains.

## 1. Header Files

- `#include<iostream.h>`
- `#include<conio.h>`
- `#include<time.h>`
- `#include<fstream.h>`
- `#include<string.h>`
- `#include<process.h>`
- `#include<stdio.h>`

## 2. Classes

### a) **Class date**

Contains variables day, mon, year for storing the day, month and year of travel. Contains function getdate to get the date entered by passenger. Ensures that the date entered is valid and is in the future. Contains function showdate to display the date of travel.

### b) **Class tim**

Contains variables hou, min to get the time of travel from the by the gettimefunction as well as showtime function to display the time of travel.

### c) **Class train\_details**

Contains the variables necessary to store the train details. Also contains function fillin which uses a switch case function to help the passenger to select the train they want to book by entering the train number. Contains function get\_train\_details function which is used to get the train details from the user. Contains the show\_train\_details function which is used to display the trains details.

### d) **Class passenger**

Contains variables to store the details of the passenger. Contains function get\_passenger\_details to get the passenger details from the passenger as well as show\_passenger\_details to display the passenger details.

### e) **Class book\_details**

Derived from both class train\_details and class passenger. Contains public variables passenger, booking reference, and price. Also contains functions modify and b\_r\_gen to modify and generate booking reference numbers respectively. The details of the booking are stored in the form of this class. Contains function passenger\_details to enter the passenger details.

## 3. Function Prototypes

### a) **void menu(void);**

Displays the main menu with options to select if the passenger wants to book a train or change train details or access train details or cancel train ticket. It also contains a separate "admin" option for the administrator to decide what to do with the train ticket that has been booked. It contains an exit option to exit from the program

### b) **void get\_booking\_details(void);**

Contains object of class book\_object and gets details of train as well as the passenger details. It also calculates the total price of the train travel journey.

### c) **void show\_available\_trains(void);**

Gives information about the available trains and the displays them on the screen.

### d) **void change\_train\_details(void);**

Asks the passenger for the booking reference number and then allows the passenger to change the existing details as per their convenience. Uses the modify function to do this task.

**e) void access\_train\_details(void);**

This function is used to access the details of already booked trains. It shows both the trains details as well as the passenger details.

**f) void book\_ticket(book\_details b);**

Here we use function b\_r\_gen() which generates a booking reference number and then it records the details of the passengers and the train details by appending it to the BOOKDETAILS.DAT file.

**g) void cancel(void);**

This function is used to delete all the existing details of the passenger as well as the details of the train booked. The passenger is required to enter his/her booking reference number which is compared with the existing reference number contained in the system and then deletes the information if the number matches.

**h) void send(void);**

Here, a number, which we shall call "important number", is sent to the file "impnumb.dat" which ensures that the booking reference number is unique.

**i) int bring(void);**

Here, the function returns the "important number", the number that ensures that the booking reference number is unique.

**j) void admin(void);**

This function allows for administrative functions, which only allows the admin to use it using a simple password system. It allows for the execution of send(), showall() and deleteall()

**k) void showall(void);**

This function plays the role of showing all the booking details stored in the memory of the file.

**l) void delete\_all(void);**

The function plays the role of deleting all the booking details stored in the memory of the file.

# CODING:

```
////////////////////////////////// HEADER FILES ////////////////////////////////////
#include<iostream.h>
#include<conio.h>
#include<time.h>
#include<fstream.h>
#include<ctype.h>
#include<string.h>
#include<process.h>
#include<stdio.h>
//////////////////////////////////
//////////////////////////////////      FUNCTION PROTOTYPES      ////////////////////////////////////
void menu(void);
void get_booking_details(void);
void show_available_trains(void);
void change_train_details(void);
void access_train_details(void);
void cancel(void);
void send(void);
void admin(void);
void showall(void);
void delete_all(void);
int bring(void);
//////////////////////////////////

//////////////////////////////////      CLASSES      ////////////////////////////////////
class date
{
public:
    int day;
    int mon;
    int yea;

    date()
    {
        day = mon = yea = 0;
    }

    void getdate()
    {
        time_t t = time(0);
        tm* tPtr = localtime(&t);
        cout << "\nToday's Date: " << (tPtr->tm_mday) << "/" << ((tPtr->tm_mon)+1) << "/" <<
        ((tPtr->tm_year)+1900) << endl;
        x:
        cout << "\nDay (dd): "; cin >> day;
        cout << "Month (mm): "; cin >> mon;
        cout << "Year (yyyy): "; cin >> yea;
```



```

if(yea<=0 || mon<=0 || day<=0)
{cout<<"enter valid values: "; goto x;}
while(yea < (tPtr->tm_year)+1900 || yea>(tPtr->tm_year)+1901)
{cout<<"enter valid values: "; goto x;}
if(yea==((tPtr->tm_year)+1900))
{ while(mon<(tPtr->tm_mon)+1 || mon>12)
{cout<<"enter valid values: "; goto x;}
}
if(yea!=((tPtr->tm_year)+1900))
{ while(mon>12)
{cout<<"enter valid values: "; goto x;}
}

```

```

switch(mon)
{ case 1: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 2: if(((tPtr->tm_year)+1900)%4==0)
{while(day>29)
{cout<<"enter valid values: "; goto x;}}
else
{while(day>28)
{cout<<"enter valid values: "; goto x;}
}
break;
case 3: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 4: while(day>30)
{cout<<"enter valid values: "; goto x;}
break;
case 5: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 6: while(day>30)
{cout<<"enter valid values: "; goto x;}
break;
case 7: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 8: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 9: while(day>30)
{cout<<"enter valid values: "; goto x;}
break;
case 10: while(day>31)
{cout<<"enter valid values: "; goto x;}
break;
case 11: while(day>30)
{cout<<"enter valid values: "; goto x;}
break;
}

```

```

        case 12:while(day>31)
            {cout<<"enter valid values:"; goto x;}
            break;
        }

    if(mon==(tPtr->tm_mon)+1 && yea==((tPtr->tm_year)+1900))
    { while(day<=tPtr->tm_mday)
        {cout<<"enter valid values:"; goto x;}
    }
}

    void showdate()
    {
        cout << "\nDate: " << day << '-' << mon << '-' << yea;
    }
};

class tim          //before: class time
{
public:
    int hou;
    int min;

    tim()
    {
        hou = min = 0;
    }

    void gettime()
    {
        cout << "\nHours: "; cin >> hou;
        cout << "\nMinutes: "; cin >> min;
    }
    void showtime()
    {
        cout << "\nTime: " << hou << ':' << min;
    }
};

class train_details
{
public:
    char start_position[50]; //train places
    char final_position[50];
    int no_of_passengers;
    int train_no;
    int duration;
    date d1;
    tim t1;
    char train[50];
    char tier;
    float base_fare;

```

```

train_details()
{
    strcpy(start_position, " ");
    strcpy(final_position, " ");
    duration=no_of_passengers = train_no=0;
    strcpy(train, " ");
    base_fare = 100.0;
    tier = ' ';
}

void fillin()
{
    switch (train_no)
    {
        case 1111://1
            strcpy(start_position,"N D Railway Station(New Delhi)");
            strcpy(final_position,"Sealdah(Kolkata)");
            strcpy(train,"Teesta Torsha");
            duration = 12;
            t1.hou = 15;
            t1.min = 50;
            if (tier == 's') base_fare = 1600;
            else if (tier == 'a') base_fare = 4000;
            else if (tier == 'b') base_fare = 3200;
            else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
            break;

        case 1112://2
            strcpy(start_position,"N D Railway Station(New Delhi)");
            strcpy(final_position,"Puratchi(Chennai)");
            strcpy(train,"G T Express");
            duration = 25;
            t1.hou = 20;
            t1.min = 20;
            if (tier == 's') base_fare = 2400;
            else if (tier == 'a') base_fare = 6000;
            else if (tier == 'b') base_fare = 5000;
            else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
            break;

        case 1113://3
            strcpy(start_position,"N D Railway Station(New Delhi)");
            strcpy(final_position,"C S T(Mumbai)");
            strcpy(train,"Mumbai Rajdhani");
            duration = 15;
            t1.hou = 16;
            t1.min = 0;
            if (tier == 's') base_fare = 1800;
            else if (tier == 'a') base_fare = 4800;
            else if (tier == 'b') base_fare = 4000;
            else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
            break;
    }
}

```

```

case 2111://4
    strcpy(start_position,"Sealdah(Kolkata)");
    strcpy(final_position,"N D Railway Station(New Delhi)");
    strcpy(train,"Coromandal Express");
    duration = 13;
    t1.hou = 12;
    t1.min = 20;
    if (tier == 's') base_fare = 1700;
    else if (tier == 'a') base_fare = 4300;
    else if (tier == 'b') base_fare = 3600;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 2112://5i
    strcpy(start_position,"Sealdah(Kolkata)");
    strcpy(final_position,"Puratchi(Chennai)");
    strcpy(train,"HWH Express");
    duration = 16;
    t1.hou = 16;
    t1.min = 30;
    if (tier == 's') base_fare = 2600;
    else if (tier == 'a') base_fare = 4000;
    else if (tier == 'b') base_fare = 3200;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 2113://6
    strcpy(start_position,"Sealdah(Kolkata)");
    strcpy(final_position,"C S T(Mumbai)");
    strcpy(train,"SCL Express");
    duration = 20;
    t1.hou = 20;
    t1.min = 00;
    if (tier == 's') base_fare = 1900;
    else if (tier == 'a') base_fare = 3900;
    else if (tier == 'b') base_fare = 3300;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 3111://7
    strcpy(start_position,"Puratchi(Chennai)");
    strcpy(final_position,"Sealdah(Kolkata)");
    strcpy(train,"Teesta Torsha");
    duration = 14;
    t1.hou = 18;
    t1.min = 50;
    if (tier == 's') base_fare = 2900;
    else if (tier == 'a') base_fare = 5000;
    else if (tier == 'b') base_fare = 3900;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

```

```

case 3112://8
    strcpy(start_position,"Puratchi(Chennai)");
    strcpy(final_position,"N D Railway Station(New Delhi)");
    strcpy(train,"SCL Express");
    duration = 16;
    t1.hou = 11;
    t1.min = 20;
    if (tier == 's') base_fare = 3800;
    else if (tier == 'a') base_fare = 5000;
    else if (tier == 'b') base_fare = 4100;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 3113://9
    strcpy(start_position,"Puratchi(Chennai)");
    strcpy(final_position,"C S T(Mumbai)");
    strcpy(train,"Mumbai Rajdhani");
    duration = 18;
    t1.hou = 9;
    t1.min = 0;
    if (tier == 's') base_fare = 1300;
    else if (tier == 'a') base_fare = 2600;
    else if (tier == 'b') base_fare = 2100;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 4111://10
    strcpy(start_position,"C S T(Mumbai)");
    strcpy(final_position,"N D Railway Station(New Delhi)");
    strcpy(train,"HWH Express");
    duration = 15;
    t1.hou = 15;
    t1.min = 50;
    if (tier == 's') base_fare = 1200;
    else if (tier == 'a') base_fare = 3300;
    else if (tier == 'b') base_fare = 2600;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue
"; getch(); menu();}
    break;

case 4112://11
    strcpy(start_position,"C S T(Mumbai)");
    strcpy(final_position,"Puratchi(Chennai) ");
    strcpy(train,"G T Express");
    duration = 16;
    t1.hou = 20;
    t1.min = 20;
    if (tier == 's') base_fare = 1100;
    else if (tier == 'a') base_fare = 3100;
    else if (tier == 'b') base_fare = 2300;
    else {cout << "\nInvalid tier choice. Returning to main menu!!. Press any key to continue ";
getch(); menu();}
    break;

```

```

        case 4113://12
            strcpy(start_position,"C S T(Mumbai)");
            strcpy(final_position,"Sealdah(Kolkata)");
            strcpy(train,"Coromandal Express");
            duration = 14;
            t1.hou = 16;
            t1.min = 0;
            if (tier == 's') base_fare = 2100;
            else if (tier == 'a') base_fare = 4400;
            else if (tier == 'b') base_fare = 3800;
            else {cout << "\nInvalid tier choice. Returning to main menu!! Press any key to continue
"; getch(); menu();}

            break;

        default:
            cout << "\nInvalid Train number.Returning to main menu!!";
            cout<<"\nPress any key to continue!!"; getch();
            clrscr();
            menu();

            break;

    }

}

void get_train_details()
{
    cout << "Choose train no.:" << endl;
    cin>> train_no;
    cout << "Enter date of travel:" << endl;
    d1.getdate();
    cout << "In which tier do you wish to travel?"<<endl;
    cout << "s-> Sleeper | a-> AC 2 Tier | b-> AC 3 \nTier: ";
    cin >> tier;
    fillin();

    cout << "How many passengers ? (Maximum 10) : "; cin >> no_of_passengers;
    //cout << "\nPlease note that children above 3 years of age need full ticket." << endl;

}

void show_train_details()
{
    cout<<endl;
    for(int i=0;i<60;i++) cout<<"=";
    cout << "\nTrain Name: " << train << endl;
    cout << "Train Number: " << train_no <<endl;
    cout << "\nStarting Destination: " << start_position << endl;
    cout << "Final Destination: " << final_position << endl;
    cout << "Duration of Journey: " << duration;
    d1.showdate();
    t1.showtime();
    cout << "\nNumber of passenger(s): " << no_of_passengers;

}

};

```

```

class passenger
{
public:
    char name[20];
    int age;
    char gender;
    int contact_no;
    int aadhar_no;

    passenger()
    {
        strcpy(name, " ");
        gender = ' ';
        age = aadhar_no = contact_no = 0;
    }

    void get_passenger_details()
    {
        cout<<endl;
        cout << "Enter name:";
        cin>>(name);
        cout << "Enter age:";
        cin >> age;
        cout << "Enter gender(M/F): ";
        cin >> gender;
        cout << "Enter contact number: ";
        cin >> contact_no;
        cout << "Enter aadhar number: ";
        cin >> aadhar_no;
        cout<<endl;
    }

    void show_passenger_details()
    {
        cout << "\n\nName: " << name << endl;
        cout << "Age: " << age << endl;
        cout << "Gender: " << gender << endl;
        cout << "Contact Number: " << contact_no << endl;
        cout << "Aadhar number: " << aadhar_no;
    }
};

class book_details : public train_details, public passenger    // public passenger added now
{
public:
    passenger p[10];
    char booking_reference[9];
    float price;

    void passenger_details()
    {
        for (int j = 0; j <(no_of_passengers); j++)
        {
            p[j].get_passenger_details();
        }
    }
}

```





```

//////////////////////////////////// MAIN FUNCTION //////////////////////////////////////

```

//////////////////////////////////// FUNCTION DEFINITIONS //////////////////////////////////////

```

        if (ch == '6')
        {
            admin();
        }
        if (ch == '0')
        {
            exit(0);
        }
    if(ch!='1' || ch!='2' || ch!='3' || ch!='4' || ch!='5' || ch!='0' || isalpha(ch))
    {
        continue;
    }
    } while (ch != '0');
}

void book_ticket(book_details b)
{
    //create booking reference number
    b.b_r_gen();
    cout<<"\nYour booking reference number :";
    cout << b.booking_reference<<endl;
    cout << "Note down your reference number. Press any key to continue. ";
    getch();

    //Now we will record everything(train details, passengers)
    fstream f1;
    f1.open("BOOKDETAILS.DAT", ios::in | ios::out | ios::binary | ios::app);
    f1.write((char*)&b, sizeof(b));
    f1.close();
}

void get_booking_details()
{
    book_details b;
    b.get_train_details();
    char ch;
    b.passenger_details();
    b.calculate_price();
    cout << "\nThe net price of ticket(s) are : " << b.price;
    cout << "\nDo you want to book a ticket for this train(y/n):";
    cin >> ch;
    if (ch == 'y' || ch == 'Y')
    {
        book_ticket(b);
    }
    else return;
}

```

```

void cancel()
{
    char ch;
    cout << "\nAre you sure you want to cancel your ticket:(y/n) ";
    cin >> ch;
    if (ch == 'y')
    {
        //deleting record
        char a[9];
        cout << "\nEnter your booking reference: ";
        gets(a);

        book_details obj;
        ifstream f1;
        f1.open("BOOKDETAILS.DAT", ios::binary|ios::in);
        ofstream f2;
        f2.open("TEMP.DAT", ios::out | ios::binary);
        while (f1.read((char*)&obj, sizeof(obj)))
        {
            if (strcmp((obj.booking_reference),a)==0)
                continue;
        }
        else
        {
            f2.write((char*)&obj, sizeof(obj));
        }
        f1.close();
        f2.close();
        remove("BOOKDETAILS.DAT");
        rename("TEMP.DAT", "BOOKDETAILS.DAT");
    }
    cout<<"\nTicket cancelled successfully. Press any key to continue !!!";
    getch();
}

void change_train_details()
{
    cout<<"\nPlease note that only passenger details can be changed\n";
    char a[9];
    book_details obj;
    long pos;
    char found = 'f';
    cout << "\nEnter your booking reference:";
    cin >> a;
    fstream f;
    f.open("BOOKDETAILS.DAT", ios::in | ios::out | ios::binary);
    while (!f.eof())
    {
        pos = f.tellg();
        f.read((char*)&obj, sizeof(obj));
        if (strcmp((obj.booking_reference),a)==0)
        {
            obj.modify();
            f.seekg(pos);
            f.write((char*)&obj, sizeof(obj));
            break;
        }
    }
}

```

```

        if (found != 'f')
            cout << "\nError, record not found. Returning to menu";
        f.seekg(0);
        f.close();
    }
    void access_train_details()
    {

        int flag = 1;
        char a[9];
        book_details obj;
        cout << "Enter Booking Reference no(8 characters max): ";
        cin >> a;

        fstream f;
        f.open("BOOKDETAILS.DAT", ios::in | ios::binary);
        while (f.read((char*)&obj, sizeof(obj)))
        {
            if (strcmp((obj.booking_reference),a)==0)
            {
                flag = 0;
                obj.show_train_details();
                for (int i = 0; i < obj.no_of_passengers; i++)
                    obj.p[i].show_passenger_details(); cout<<endl;
                break;
            }
        }

        if (flag == 1)
            cout << "\nError, record not found. Returning to menu."<<endl;
        cout<<"\nPress any key to return ";

        getch();
        f.close();
    }

    void show_available_trains()
    {
        cout << "\nAVAILABLE TRAINS :\n";

        for(int i=0;i<157;i++) cout<<"=";
        cout<<endl;

        cout << " \t\tTRAIN NAME \t\t\tTRAIN TIMINGS\t\tJOURNEY DURATION(HRS)\t\tSTARTING
DESTINATION\t\tFINAL DESTINATION \t\t\t\t\tSLEEPER AC2Tier AC3Tier TRAIN NO.\n";

        for(int i=0;i<157;i++) cout<<"=";
        cout<<endl;
    }

```

```

        cout << " \tTeesta Torsha \t\t 15:50 \t\t12 \t\tNew Delhi Rly Stn \tSealdah(Kolkata)   1600
4000  3200  1111 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tG T Express \t\t 20:20 \t\t25 \t\tNew Delhi Rly Stn \tPuratchi(Chennai)  2400   6000
5000  1112 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tMumbai Rajdhani \t 16:00 \t\t15 \t\tNew Delhi Rly Stn \tC S T(Mumbai)      1800
4800  4000  1113 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;

        cout << " \tCoromandal Express \t 12:20 \t\t13 \t\tSealdah(Kolkata) \tNew Delhi Rly Stn   1700
4300  3600  2111 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tHWH Express \t\t 16:30 \t\t16 \t\tSealdah(Kolkata) \tPuratchi(Chennai)  2600   4000
3200  2112 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tSCL Express \t\t 20:00 \t\t20 \t\tSealdah(Kolkata) \tC S T(Mumbai)      1900   3900
3300  2113 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;

        cout << " \tTeesta Torsha \t\t 18:50 \t\t14 \t\tPuratchi(Chennai) \tSealdah(Kolkata)  2900
5000  3900  3111 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tSCL Express \t\t 11:20 \t\t16 \t\tPuratchi(Chennai) \tNew Delhi Rly Stn  3800   5000
4100  3112 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tMumbai Rajdhani \t 09:00 \t\t18 \t\tPuratchi(Chennai) \tC S T(Mumbai)      1300
2600  2100  3113 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;

        cout << " \tHWH Express \t\t 15:50 \t\t15 \t\tC S T(Mumbai) \tNew Delhi Rly Stn  1200   3300
2600  4111 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tG T Express \t\t 20:20 \t\t16 \t\tC S T(Mumbai) \tPuratchi(Chennai)  1100   3100
2300  4112 \n";
        for(int i=0;i<157;i++) cout<<"-";cout<<endl;
        cout << " \tCoromandal Express \t 16:00 \t\t14 \t\tC S T(Mumbai) \tSealdah(Kolkata)  2100
4400  3800  4113 \n";
        for(int i=0;i<157;i++) cout<<"=";cout<<endl;
        cout<<endl;
    }

void admin()
{
    cout << "\nEnter Password: ";
    char pass[15];
    for(int i=0;i<15;i++)
    { pass[i]=getch();
      cout<<"*";
    }
}

```

```

if (strcmp(pass, "computerproject") != 0)
{
    cout << "\nWrong Password.";
    return;
}
int ch1;
do
{
    system("cls");
cout<<"\t\t\t\t\tWELCOME TO ADMIN MENU";
    cout << " \nChoose:\n 1.Resend Important Number \n 2.Show Everything\n 0.Exit"<<endl;
    cin >> ch1;
    if (ch1 == 1)
    {
        send();
    }
    else if (ch1 == 2)
    {
        showall();
    }
    else if (ch1 == 3)
    {
        delete_all();
    }
    else if (ch1 == 0)
    {
        break;
    }
} while (ch1 != 0);
}
void send()
{
    int give = 111;
    ofstream fo("impnumb.dat", ios::binary);
    fo.write((char*)&give, sizeof(give));
    fo.close();
}
void showall()
{
    ifstream f1;
    f1.open("BOOKDETAILS.DAT", ios::binary | ios::in);
    book_details b;
    while (f1.read((char*)&b, sizeof(b)))
    {
        b.show_train_details();
        for (int i = 0; i < b.no_of_passengers; i++)
            b.p[i].show_passenger_details();
        cout<<"\nbooking reference: "<<b.booking_reference<<endl;
    }
    f1.close();
    getch();
}

```

```

void delete_all()
{
    showall();
    remove("BOOKDETAILS.DAT");
}

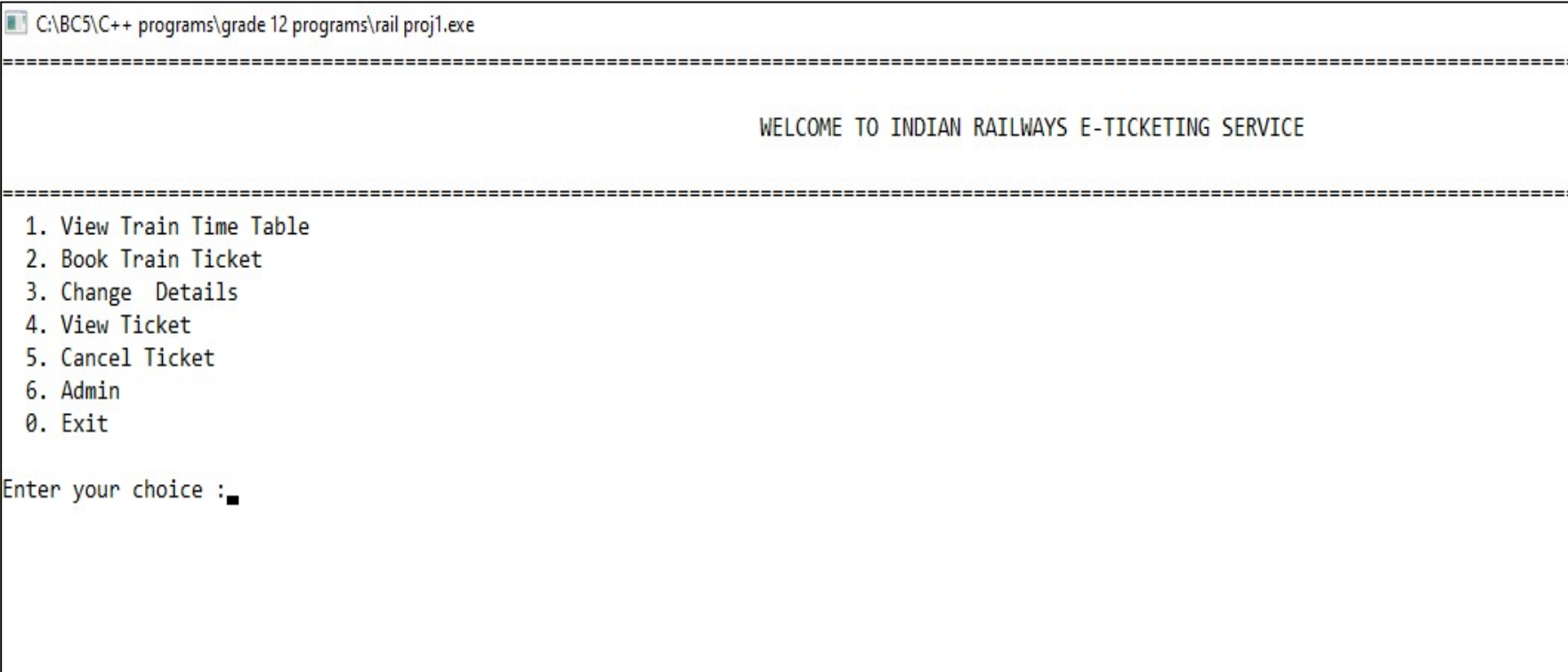
int bring()
{
    int get;
    ifstream fi("impnumb.dat", ios::binary);
    fi.read((char*)&get, sizeof(get));
    fi.close();

    int newgive = get + 1;
    ofstream fo("impnumb.dat", ios::binary);
    fo.write((char*)&newgive, sizeof(newgive));
    fo.close();
    return get;
}

```

# SCREENSHOTS

## MAIN MENU SCREEN: menu() FUNCTION



```
C:\BC5\C++ programs\grade 12 programs\rail proj1.exe
=====
                                WELCOME TO INDIAN RAILWAYS E-TICKETING SERVICE
=====
1. View Train Time Table
2. Book Train Ticket
3. Change Details
4. View Ticket
5. Cancel Ticket
6. Admin
0. Exit

Enter your choice : █
```



## FIRST CHOICE SCREEN SHOT: show\_available\_trains() FUNCTION

C:\BC5\C++ programs\grade 12 programs\rail proj1.exe

AVAILABLE TRAINS :

TRAIN NAME	TRAIN TIMINGS	JOURNEY DURATION(HRS)	STARTING DESTINATION	FINAL DESTINATION	SLEEPER	AC2Tier	AC3Tier	TRAIN NO.
Teesta Torsha	15:50	12	New Delhi Rly Stn	Sealdah(Kolkata)	1600	4000	3200	1111
G T Express	20:20	25	New Delhi Rly Stn	Puratchi(Chennai)	2400	6000	5000	1112
Mumbai Rajdhani	16:00	15	New Delhi Rly Stn	C S T(Mumbai)	1800	4800	4000	1113
Coromandal Express	12:20	13	Sealdah(Kolkata)	New Delhi Rly Stn	1700	4300	3600	2111
HOW Express	16:30	16	Sealdah(Kolkata)	Puratchi(Chennai)	2600	4000	3200	2112
SCL Express	20:00	20	Sealdah(Kolkata)	C S T(Mumbai)	1900	3900	3300	2113
Teesta Torsha	18:50	14	Puratchi(Chennai)	Sealdah(Kolkata)	2900	5000	3900	3111
SCL Express	11:20	16	Puratchi(Chennai)	New Delhi Rly Stn	3800	5000	4100	3112
Mumbai Rajdhani	09:00	18	Puratchi(Chennai)	C S T(Mumbai)	1300	2600	2100	3113
HOW Express	15:50	15	C S T(Mumbai)	New Delhi Rly Stn	1200	3300	2600	4111
G T Express	20:20	16	C S T(Mumbai)	Puratchi(Chennai)	1100	3100	2300	4112
Coromandal Express	16:00	14	C S T(Mumbai)	Sealdah(Kolkata)	2100	4400	3800	4113

## SECOND CHOICE SCREEN SHOT: show\_available\_trains() AND get\_booking\_details() FUNCTION

C:\BC5\C++ programs\grade 12 programs\rail proj1.exe

Enter your choice :2

AVAILABLE TRAINS :

TRAIN NAME	TRAIN TIMINGS	JOURNEY DURATION(HRS)	STARTING DESTINATION	FINAL DESTINATION	SLEEPER	AC2Tier	AC3Tier	TRAIN NO.
Teesta Torsha	15:50	12	New Delhi Rly Stn	Sealdah(Kolkata)	1600	4000	3200	1111
G T Express	20:20	25	New Delhi Rly Stn	Puratchi(Chennai)	2400	6000	5000	1112
Mumbai Rajdhani	16:00	15	New Delhi Rly Stn	C S T(Mumbai)	1800	4800	4000	1113
Coromandal Express	12:20	13	Sealdah(Kolkata)	New Delhi Rly Stn	1700	4300	3600	2111
HWH Express	16:30	16	Sealdah(Kolkata)	Puratchi(Chennai)	2600	4000	3200	2112
SCL Express	20:00	20	Sealdah(Kolkata)	C S T(Mumbai)	1900	3900	3300	2113
Teesta Torsha	18:50	14	Puratchi(Chennai)	Sealdah(Kolkata)	2900	5000	3900	3111
SCL Express	11:20	16	Puratchi(Chennai)	New Delhi Rly Stn	3800	5000	4100	3112
Mumbai Rajdhani	09:00	18	Puratchi(Chennai)	C S T(Mumbai)	1300	2600	2100	3113
HWH Express	15:50	15	C S T(Mumbai)	New Delhi Rly Stn	1200	3300	2600	4111
G T Express	20:20	16	C S T(Mumbai)	Puratchi(Chennai)	1100	3100	2300	4112
Coromandal Express	16:00	14	C S T(Mumbai)	Sealdah(Kolkata)	2100	4400	3800	4113

Choose train no.:

1111

Enter date of travel:

Today's Date: 11/1/2020

```
C:\BC5\C++ programs\grade 12 programs\rail proj1.exe
=====

Choose train no.:

1111
Enter date of travel:

Today's Date: 11/1/2020

Day (dd): 25
Month (mm): 1
Year (yyyy): 2020
In which tier do you wish to travel?
s-> Sleeper | a-> AC 2 Tier | b-> AC 3
Tier: s
How many passengers ? (Maximum 10) : 1

Enter name:Ravi
Enter age:32
Enter gender(M/F): M
Enter contact number: 918456784
Enter aadhar number: 486283

The net price of ticket(s) are : 1600
Do you want to book a ticket for this train(y/n):y

Your booking reference number :1111s112
Note down your reference number. Press any key to continue. ■
```

### THIRD CHOICE SCREEN SHOT: change\_train\_details() FUNCTION

```
C:\BC5\C++ programs\grade 12 programs\rail proj1.exe
5. Cancel Ticket
6. Admin
0. Exit

Enter your choice :3

Please note that only passenger details can be changed

Enter your booking reference:1111s112

Previously entered details:
Starting Destination: N D Railway Station(New Delhi)
Final Destination: Sealdah(Kolkata)
Train Number: 1111
Train: Teesta Torsha
Tier: s
Date: 25-1-2020
Time: 15:50

Name: Ravi
Age: 32
Gender: M
Contact Number: 918456784
Aadhar number: 486283

Enter New Details ->

Enter name:Hari
Enter age:27
Enter gender(M/F): M
Enter contact number: 978645196
Enter aadhar number: 956743

The details have been updated. They can be viewed in the Main Menu
```

#### FOURTH CHOICE SCREEN SHOT: access\_train\_details FUNCTION

```
C:\BCS\C++ programs\grade 12 programs\rail proj1.exe
=====
                                WELCOME TO INDIAN RAILWAYS E-TICKETING SERVICE
=====
1. View Train Time Table
2. Book Train Ticket
3. Change Details
4. View Ticket
5. Cancel Ticket
6. Admin
0. Exit

Enter your choice :4
Enter Booking Reference no(8 characters max):
1111s112

=====
Train Name: Teesta Torsha
Train Number: 1111

Starting Destination: N D Railway Station(New Delhi)
Final Destination: Sealdah(Kolkata)
Duration of Journey: 12
Date: 25-1-2020
Time: 15:50
Number of passenger(s): 1

Name: Hari
Age: 27
Gender: M
Contact Number: 978645196
Aadhar number: 956743

Press any key to return ■
```

### FIFTH CHOICE SCREEN SHOT: cancel() FUNCTION

```
C:\BC5\C++ programs\grade 12 programs\rail proj1.exe
=====
                                WELCOME TO INDIAN RAILWAYS E-TICKETING SERVICE
=====
1. View Train Time Table
2. Book Train Ticket
3. Change Details
4. View Ticket
5. Cancel Ticket
6. Admin
0. Exit

Enter your choice :5

Are you sure you want to cancel your ticket:(y/n) y

Enter you booking reference: 1111s112

Ticket cancelled successfully. Press any key to continue !!!
```

## SIXTH CHOICE SCREEN SHOT: admin() FUNCTION

```
C:\BC5\C++ programs\grade 12 programs\rail proj1.exe
=====
                                WELCOME TO INDIAN RAILWAYS E-TICKETING SERVICE
=====
1. View Train Time Table
2. Book Train Ticket
3. Change Details
4. View Ticket
5. Cancel Ticket
6. Admin
0. Exit

Enter your choice :6

Enter Password: *****■
```



C:\BC5\C++ programs\grade 12 programs\rail proj1.exe

WELCOME TO ADMIN MENU

Choose:

- 1.Resend Important Number
- 2.Show Everything
- 0.Exit

2

=====

Train Name: Teesta Torsha  
Train Number: 3111

Starting Destination: Puratchi(Chennai)  
Final Destination: Sealdah(Kolkata)  
Duration of Journey: 14  
Date: 5-5-2020  
Time: 18:50  
Number of passenger(s): 1

Name: Sanjeev  
Age: 56  
Gender: M  
Contact Number: 968573218  
Aadhar number: 753951  
booking reference: 3111b113

■



# BIBLIOGRAPHY

- Computer Science Textbook Class 12: Computer Science with C++, by Sumita Arora
- Allinone Computer Science CBSE Class XII
- [www.w3schools.com](http://www.w3schools.com)
- [www.programiz.com](http://www.programiz.com)
- [www.tutorialspoint.com](http://www.tutorialspoint.com)