



ACADEMIC YEAR: 2025-2026

**CSE 2001- OBJECT ORIENTED
PROGRAMMING IN C++**

PROJECT FILE

RAILEASE

Book Your Ticket with Ease!!

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CODE :

```
#include <iostream>
#include <string>
#include <vector>
using namespace std;

class Ticket {
public:
    string passengerName;
    string trainName;
    int seatNumber;
    string source;
    string destination;
    string dateOfJourney;

    Ticket(string passengerName, string trainName, int
seatNumber, string source, string destination, string
dateOfJourney) {
        this->passengerName = passengerName;
        this->trainName = trainName;
        this->seatNumber = seatNumber;
        this->source = source;
        this->destination = destination;
        this->dateOfJourney = dateOfJourney;
    }

    void displayTicket() {
        cout << "\nTicket Details: " << endl;
        cout << "Passenger Name: " << passengerName <<
endl;
```

```

        cout << "Train Name: " << trainName << endl;
        cout << "Seat Number: " << seatNumber << endl;
        cout << "Source: " << source << endl;
        cout << "Destination: " << destination << endl;
        cout << "Date of Journey: " << dateOfJourney <<
    endl;
}

};

class RailwayBookingSystem {
private:
    vector<Ticket> tickets;
    vector<string> availableTrains;
    vector<string> stations;

public:
    RailwayBookingSystem() {
        availableTrains.push_back("Darjeeling
Limited");
        availableTrains.push_back("Vande Bharat
Express");
        availableTrains.push_back("Royal Rajasthan On
Wheels");
        stations.push_back("New Delhi Junction");
        stations.push_back("Jaipur Station");
        stations.push_back("Darjeeling Railway
Station");
        stations.push_back("Jammu Tawi Station");
    }

    void displayTrains() {
        cout << "Available Trains: " << endl;

```

```

        for (int i = 0; i < availableTrains.size();
i++) {
            cout << i + 1 << ". " << availableTrains[i]
<< endl;
        }
    }

void displayStations() {
    cout << "Available Stations: " << endl;
    for (int i = 0; i < stations.size(); i++) {
        cout << i + 1 << ". " << stations[i] <<
endl;
    }
}

bool isValidStation(int station) {
    return station > 0 && station <=
stations.size();
}

bool isValidTrain(int train) {
    return train > 0 && train <=
availableTrains.size();
}

void bookTicket() {
    string passengerName, source, destination,
dateOfJourney;
    int trainChoice, sourceStation,
destinationStation, seatNumber;

    cin.ignore();
}

```

```
cout << "\nEnter passenger name: ";
getline(cin, passengerName);

displayStations();

cout << "\nSelect source station: ";
cin >> sourceStation;

if (!isValidStation(sourceStation)) {
    cout << "Invalid station choice!" << endl;
    return;
}

source = stations[sourceStation - 1];

displayStations();
cout << "\nSelect destination station: ";
cin >> destinationStation;

if (!isValidStation(destinationStation) ||
sourceStation == destinationStation) {
    cout << "Invalid destination choice!" <<
endl;
    return;
}

destination = stations[destinationStation - 1];
displayTrains();

cout << "\nSelect train: ";
cin >> trainChoice;

if (!isValidTrain(trainChoice)) {
    cout << "Invalid train choice!" << endl;
    return;
}
```

```

cout << "\nEnter date of journey (YYYY-MM-DD) :
";
cin >> dateOfJourney;

cout << "\nEnter seat number: ";
cin >> seatNumber;

Ticket newTicket(passengerName,
availableTrains[trainChoice - 1], seatNumber, source,
destination, dateOfJourney);

tickets.push_back(newTicket);

cout << "\nTicket booked successfully!" <<
endl;
newTicket.displayTicket();

}

void showAllTickets() {

if (tickets.empty()) {

cout << "\nNo tickets booked yet!" << endl;

} else {

for (int i = 0; i < tickets.size(); i++) {

tickets[i].displayTicket();

}

}

}

};

int main() {

cout<<" Welcome To RailEase" << endl;

cout<<"Book Your Ticket with Ease!!" << endl;

RailwayBookingSystem system;

int choice;

do {

cout << "\nRailway Ticket Booking System\n";

```

```
cout << "[1] Book a ticket\n";
cout << "[2] Show all booked tickets\n";
cout << "[3] Exit\n";
cout << "Enter your choice: ";
cin >> choice;
cin.ignore();
switch (choice) {
    case 1:
        system.bookTicket();
        break;
    case 2:
        system.showAllTickets();
        break;
    case 3:
        cout << "👋 Exiting the system.
Goodbye!" << endl;
        break;
    default:
        cout << "✗ Invalid choice! Please try again."
<< endl;
}
} while (choice != 3);
return 0;
}
```

OUTPUT :

 **Welcome To RailEase**

Book Your Ticket with Ease!!

Railway Ticket Booking System

- 1 Book a ticket**
- 2 Show all booked tickets**
- 3 Exit**

Enter your choice: 1

Enter passenger name: Harsh

Available Stations:

- 1. New Delhi Junction**
- 2. Jaipur Station**
- 3. Darjeeling Railway Station**
- 4. Jammu Tawi Station**

Select source station: 1

Available Stations:

- 1. New Delhi Junction**
- 2. Jaipur Station**
- 3. Darjeeling Railway Station**
- 4. Jammu Tawi Station**

Select destination station: 3

Available Trains:

- 1. Darjeeling Limited**
- 2. Vande Bharat Express**
- 3. Royal Rajasthan On Wheels**

Select train: 1

Enter date of journey (YYYY-MM-DD):

2025-06-05

Enter seat number: 25

Ticket booked successfully!

Ticket Details:

Passenger Name: Harsh

Train Name: Darjeeling Limited

Seat Number: 25

Source: New Delhi Junction

Destination: Darjeeling Railway Station

Date of Journey: 2025-06-05