**VIT Bhopal University**

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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 << "1️⃣ Book a ticket\n";**

**cout << "2️⃣ Show all booked tickets\n";**

**cout << "3️⃣ 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**

**1️⃣ Book a ticket**

**2️⃣ Show all booked tickets**

**3️⃣ 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**