



**Initial Conditions:**Airline(Code,Name):

I5,AirAsia

AI,Air India

6E,IndiGo

SG,SpiceJet

VTI,Vistara

City(Code,Name,Coodx,Coody):

DLI,Delhi,2,1

BMB,Mumbai,5,0

HYD,Hyderabad,6,1

CHN,Chennai,7,2

JPR,Jaipur,3,0

BGU,Bengaluru,6,0

KOK,Kolkata,2,3

CHD,Chandigarh,1,0

PUN,Pune,4,0

BPL,Bhopal,3,1

SRI,Srinagar,0,0

Customer(ID,Name>Password,Age,Gender,Aadhar No):

1,Sujay,sujay,19,M,1234-1234-1234

2,Vansh,vansh,21,M,1234-2313-9029

3,Ram Mehta,ram,17,M,5676-8288-8991

4,Shreya,shreya,27,F,9991-6662-7182

5,Nidhi,nidhi,49,F,1212-8382-7733

Staff(ID,Name>Password,Age,Gender,Airline Code,Home City Code):

1,Sujay,staff,33,M,I5,DLI

2,Vansh,staff,18,M,AI,DLI

3,Shreya,staff,22,F,6E,DLI

4,Tanmay,staff,49,M,SG,DLI

5,Geeta,staff,52,F,VTI,DLI

### Flight

(Flight Code,Departure Date,Dep City Code,Dest City Code,Dep Time,Arrival Time,Gate No, Seats Left,Fare,Seat Counter):

(Only for Departure Date: 22/11/2021)

IS 1,22/11/2021,DLI,BMB,13:00,15:20,1,180,2500,0  
AI 1,22/11/2021,DLI,BMB,18:00,20:30,3,180,2500,0  
6E 1,22/11/2021,DLI,BMB,09:00,11:25,8,180,2500,0  
SG 1,22/11/2021,DLI,BMB,11:00,13:15,4,180,2500,0  
VTI 1,22/11/2021,DLI,BMB,22:00,00:10,6,180,2500,0  
IS 2,22/11/2021,DLI,HYD,01:00,03:40,1,180,2500,0  
AI 2,22/11/2021,DLI,HYD,00:00,02:05,3,180,2500,0  
6E 2,22/11/2021,DLI,HYD,16:00,18:45,8,180,2500,0  
SG 2,22/11/2021,DLI,HYD,20:00,22:15,4,180,2500,0  
VTI 2,22/11/2021,DLI,HYD,07:00,09:10,6,180,2500,0  
IS 3,22/11/2021,DLI,CHN,13:00,17:40,1,180,3500,0  
AI 3,22/11/2021,DLI,CHN,20:00,00:05,3,180,3500,0  
6E 3,22/11/2021,DLI,CHN,09:00,13:45,8,180,3500,0  
SG 3,22/11/2021,DLI,CHN,10:00,14:15,4,180,3500,0  
VTI 3,22/11/2021,DLI,CHN,06:00,10:10,6,180,3500,0

### Testing Code:

The admin password is: admin.

You can use any of the Customer and Staff ID given above. To add new Cust ID, Register Customer. Staff can be registered through admin.

At present, in the database there are flights only for the date, 22/11/2021. You can use them to test your cases. To check for any other date, add flight using admin for the date.

Test Flights added are only from Delhi to Mumbai/Hyderabad/Mumbai.

All the inputs in the program need to be case sensitive and follow the same format as mentioned above in the **Initial Conditions**. Any other format won't match the input and show file not found.

All the required information about the databases can be seen from the above **Initial Conditions**.

A test case is shown below in the document.

**Database:**Airlines:

There are 5 airlines in the database: Air Asia, Air India, IndiGo, SpiceJet and Vistara. Each of which have a specific code.

City:

There are 11 Cities altogether. Delhi(DLI) is the home city which at coordinate (2,1). The other 10 cities are: Mumbai(BMB), Hyderabad(HYD), Jaipur(JPR), Chennai(CHN), Bengaluru(BGL), Kolkata(KOK), Chandigarh(CHD), Pune(PUN), Bhopal(BPL) and Srinagar(SRI).

Each of the cities are at different coordinates. The distance between 2 cities is used to find the Fare, a flight will charge for travelling there.

Customer:

Customer contains the database for all the customers, including their id and password.

Staff:

Staff contains the database for all the staff members, including their id and password.

Flight:

Flight contains the database for all the flight instances for each and every plane of all airlines.

Booking:

Booking contains the database for all the bookings done on the flights until now.

BoardingPass:

BoardingPass contains the database for all the boarding pass that staff has created until now, including the baggage weight and charge too.

**Code Explanation:**

One can test the case according to the initial conditions given below.

We have created a menu driven program for the application. The first menu consists of 5 choices:

1. Register Customer
2. Customer Login
3. Staff Login
4. Admin
5. Exit

The user will choose from the following according to what they want to achieve. A new customer can register with the application by filling his details. His name will be added in the Customer.txt database and then he can Login as customer.

A customer can login to get the Login Menu by entering their ID and password which the program will verify and move them to the next Menu.

### Login Menu:

The Login Menu consists of:

1. Search Flight
2. View Bookings
3. Cancel Booking
4. Edit Profile
5. Log Out

Customer will be able to search flights according to their preferences and then will get a list of Flight Codes from which they can chose the flight they want to see the details for in the run. Then they will be presented with the option to book ticket in the flight and fill Passenger's information if they chose to do so.

Customers can also view all their previous bookings and even Cancel a booking if they wish to do so. Further, there is an option to edit their profile and even change their password.

An airline staff member can login to get to the Staff Menu by entering their ID and password which are registered by admin (option available in Admin Menu).

### Staff Menu:

1. Check In Passenger
2. View Boarding Pass
3. View Flights
4. Edit Profile
5. Log Out

Staff will be able to register Passenger on desk using the program by running the Check In. The staff will enter customer details while the code will verify it from the booking database. If the profile matches, the code will create a boarding pass for the Passenger which includes the seat no and the baggage charge they have to pay.

Staff can also view any boarding pass of a passenger travelling in their airlines. They can also view all the flights that are registered in the database for the Airline. Further, there is an option to edit their profile and even change their password.

### Admin:

Admin has access to all the databases present in the code. Their main use is to enter new Flight and Register new Staff. They can also display all the databases present.

### Test Case:

Start:

```
C:\Users\sujay\Desktop\OOP Project\Code>java -jar airport_management.jar
*****

Airport Ticket Booking System
*****
Press "ENTER" to continue...
```

Main Menu:

Registration:

```
Menu
1.Register User
2.Customer Login
3.Staff Login
4.Admin
0.Exit

Enter Choice: 1

Customer Registration
Enter Name: Aryan
Select a Password: aryan
Enter Your Age(int): 36
Enter Your Gender(M/F/N): M
Enter Aadhar No(XXXX-XXXX-XXXX): 1234-5678-1234
Your ID is 6
Registered!
```

Customer Login:

```
Menu
1.Register User
2.Customer Login
3.Staff Login
4.Admin
0.Exit

Enter Choice: 2

Login Page
Enter ID: 6
Enter Password: aryan

Customer Menu
1.Search Flight
2.View Bookings
3.Cancel Booking
4.Edit Profile
0.Log Out
Enter Choice:
```

## Search Flight and View Details:

```
Customer Menu
1.Search Flight
2.View Bookings
3.Cancel Booking
4.Edit Profile
0.Log Out
Enter Choice: 1

Search Flights
Enter Source City Name: Delhi
Enter Destination City Name: Mumbai
Enter Departure Date(DD/MM/YYYY): 22/11/2021
Enter No of Seats: 2
Available Flights: I5 1
AI 1
BE 1
BG 1
BT 1

Do You Want To View Details?(Y/N): Y
Enter Flight Code: I5 1

Code: I5 1      Departure Date: 22/11/2021
Departure City: Delhi  Destination City: Mumbai
Departure Time: 13:00  Arrival Time: 15:20
Gate: 1        Seats Left: 180 Fare: 2500

Do You Want To Book Tickets?(Y/N): Y
```

## Book Ticket:

```
Code: I5 1      Departure Date: 22/11/2021
Departure City: Delhi  Destination City: Mumbai
Departure Time: 13:00  Arrival Time: 15:20
Gate: 1        Seats Left: 180 Fare: 2500

Do You Want To Book Tickets?(Y/N): Y

Enter No of Passengers: 1

Enter Passenger 1's Name: Aryan
Enter Passenger's Age: 36
Enter Passenger's Gender: M
Enter Passenger's Aadhar No: 1234-5678-1234
Booking Confirmed!
You have to pay: 2500
```

## View Bookings

```
Customer Menu
1.Search Flight
2.View Bookings
3.Cancel Booking
4.Edit Profile
0.Log Out
Enter Choice: 2

Name :Aryan      Age: 36 Gender: M
Flight Code :I5 1      Departure Date: 22/11/2021
Departure From :Delhi  To: Mumbai
Departure At :13:00    Arrival Time: 15:20
```

### Edit Profile:

```
Edit Profile
1.Name
2.Age
3.Gender
4.Aadhar No
5.Password
Enter Choice: 2
Enter Age: 24
Profile Updated.
```

### Staff Login:

```
Menu
1.Register User
2.Customer Login
3.Staff Login
4.Admin
0.Exit

Enter Choice: 3

Login Page
Enter ID: 1
Enter Password: sujay
Incorrect ID or Password

Login Page
Enter ID: 1
Enter Password: staff

Staff Menu
1.Check In Passenger
2.View Boarding Pass
3.View Flights
4.Edit Profile
0.Log Out
Enter Choice: █
```

### Check In:

```
Staff Menu
1.Check In Passenger
2.View Boarding Pass
3.View Flights
4.Edit Profile
0.Log Out
Enter Choice: 1

Enter Customer ID: 6
Enter Name: Aryan
Enter Aadhar No: 1234-5678-1234
Enter Flight ID(Last Digit Only): 1
Enter Departure Date(DD/MM/YYYY): 22/11/2021
Enter Destination City Code: BMB
Enter Baggage Weight: 14
Boarding Pass Created!

Name: Aryan      Flight Code: IS 1      Destination Date: 22/11/2021
From: Delhi     To: Mumbai      Departure Time: 13:00   Arrival Time: 15:20
Gate No: 1      Seat No: 1B
Your Baggage Charge is: 1125
```

### View Boarding Pass:

```
Staff Menu
1.Check In Passenger
2.View Boarding Pass
3.View Flights
4.Edit Profile
0.Log Out
Enter Choice: 2

Enter Customer ID: 6
Enter Passenger Name: Aryan
Enter Departure Date: 22/11/2021

Name: Aryan      Flight Code: IS 1      Destination Date: 22/11/2021
From: Delhi     To: Mumbai      Departure Time: 13:00   Arrival Time: 15:20
Gate No: 1      Seat No: 1B

Staff Menu
```



## View Flights:

```
123 command prompt java -jar airporManagement.jar
Staff Menu
1.Check In Passenger
2.View Boarding Pass
3.View Flights
4.Edit Profile
0.Log Out
Enter Choice: 3

AirAsia Airlines
Code: I5 2      Departure Date: 22/11/2021
Departure City: Delhi   Destination City: Hyderabad
Departure Time: 01:00   Arrival Time: 03:40
Gate: 1         Seats Left: 180 Fare: 2500

Code: I5 3      Departure Date: 22/11/2021
Departure City: Delhi   Destination City: Chennai
Departure Time: 13:00   Arrival Time: 17:40
Gate: 1         Seats Left: 180 Fare: 3500

Code: I5 1      Departure Date: 23/11/2021
Departure City: Delhi   Destination City: Mumbai
Departure Time: 13:00   Arrival Time: 15:20
Gate: 1         Seats Left: 180 Fare: 2500

Code: I5 2      Departure Date: 23/11/2021
Departure City: Delhi   Destination City: Hyderabad
Departure Time: 01:00   Arrival Time: 03:40
Gate: 1         Seats Left: 180 Fare: 2500

Code: I5 3      Departure Date: 23/11/2021
Departure City: Delhi   Destination City: Chennai
Departure Time: 13:00   Arrival Time: 17:40
Gate: 1         Seats Left: 180 Fare: 3500
```

## Admin:

```
Menu
1.Register User
2.Customer Login
3.Staff Login
4.Admin
0.Exit

Enter Choice: 4

Login Page
Enter Password: admin

Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 1
```

## Register Staff:

```
Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 1

Staff Registration
Enter Name: Ananya
Select a Password: staff
Enter Your Age: 22
Enter Your Gender(M/F/W): F
Enter Airline Code: I5
Their ID is 6
Registered!
```

## New Flight:

```
Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 2

New Flight Details
Enter Airline Code: I5
Enter Departure Date(DD/MM/YYYY): 22/11/2021
Enter Departure Time(HH:MM): 01:00
Enter Departure City Code: DLI
Enter Destination City Code): PUN
Enter Arrival Time(HH:MM): 04:00
Enter Gate: 2
Flight Added
```

## View Various Databases:

```
Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 3
Name: Delhi      Code: DLI      Coordinate X: 2 Y: 1
Name: Mumbai    Code: BMB      Coordinate X: 5 Y: 0
Name: Hyderabad Code: HYD      Coordinate X: 6 Y: 1
Name: Chennai   Code: CHN      Coordinate X: 7 Y: 2
Name: Jaipur    Code: JPR      Coordinate X: 3 Y: 0
Name: Bengaluru Code: BGU      Coordinate X: 6 Y: 0
Name: Kolkata   Code: KOK      Coordinate X: 2 Y: 3
Name: Chandigarh Code: CHD      Coordinate X: 1 Y: 0
Name: Pune      Code: PUN      Coordinate X: 4 Y: 0
Name: Bhopal    Code: BPL      Coordinate X: 3 Y: 1
Name: Srinagar  Code: SRI      Coordinate X: 0 Y: 0
```

```
Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 4
Name: AirAsia   Code: I5
Name: Air India Code: AI
Name: IndiGo    Code: GE
Name: SpiceJet  Code: SG
Name: Vistara   Code: VT
```

And so on..

Remove Database:

```
Admin Menu
1.Register Staff
2.New Flight
3.View City Details
4.View Airline Details
5.View Customer Details
6.View Staff Details
7.View Flight Details
8.View Booking Details
9.View Boarding Pass Details
10.Remove Flight
11.Remove Customer
12.Remove Staff
0.Log Out
Enter Choice: 10
Enter Flight ID: I5 10
Enter Departure Date(DD/MM/YYYY): 22/11/202
Enter Departure City Code: DLI
Enter Destination City Code: PUN
Flight Removed!
```