**Concepts Used**

* JAVA
* JSP
* JDBC
* Servlets
* MySQL
* Maven

**Algorithm:**

Step 1: At the Home Page, the User will select whether he wants to ‘Login as Admin’ or ‘Login as User’ or wants to ‘Search Flight’.

Step 2: If ‘Login as Admin’ is clicked, Admin Home Page will open.

Step 2.1: Admin will enter the username and password and click Login.

1. If password/username is incorrect, admin will get a message “Invalid email id or Password”.
2. If username and password are correct, admin will navigate to the next page which is ‘Administrator Page’ with 3 options:

* Add a New Flight – Flight Details are entered on the front end and upon clicking the add button are inserted into the database with Flight Number as the primary key.

In case, any field is not entered, an error message will be displayed.

* Delete a Flight – Flight number to be deleted will be entered by the admin. Upon confirmation, the flight will be deleted from the database.
* Update Flight Details – Flight number to be updated will be entered by the admin. The flight details of the entered flight number will be fetched from the database and displayed on the front-end. The admin will then click on the edit button to update and edit the fields. On pressing the confirm button, the changes will be made in the database.

On each of the above mentioned 3 options - Home, Logout and Admin Choice Page hyperlinks will be available to navigate to these pages.

Step 2.2: Admin clicks on “Change Password”

1. If email-id entered on the ‘Change Password’ Page exists in Database, upon entering the new password and clicking on the ‘Change’ button, the password will be successfully changed and updated in the DB.
2. If emailed entered on the ‘Change Password’ Page does not exist in DB, error message will be displayed – “Invalid email-id entered”.

Step 3: If ‘Login as User’ is clicked (in step 1), User Login Page will open.

Step 4: On the ‘User Login Page’ if he/she is an:

1. Existing User – Will enter the username and password and click on Login button.
2. If the user details are correct – the user details like his Name, Email-id, Address & Phone No. will be displayed along with the ‘Search Flights’ button. On clicking ‘Search Flight’ the user will Navigate to ‘Search Flight Page’, i.e Step 5.
3. If the user details are incorrect – an error message will be displayed.
4. If New User, he will click on register and Enter the details.
5. If the details are entered with an email address not in DB (‘user’ table) – user will be added successfully in the database.
6. If the details are entered with an email address already in DB (‘user’ table) – an error message will be displayed.
7. If any field is left empty – an error message will be displayed.

Step 5: The user can click on Search Flight (in Step 1) by entering the details and clicking on ‘Search’ button.

Step 6: From the details entered in Step 5 – ‘flight to’, ‘flight from’ and ‘date’ will be used to search the flight with the matching parameters in the database.

Step 7: If the flight is not found in the database – message will be displayed that ‘No Flights Available’.

Step 8: If in Step 6 -> if parameters matched finds a flight in Database, all flights with matching details will be displayed on the screen with a ‘Book’ button available to book the flight.

Step 9: When the user clicks ‘Book’ Button against flight details displayed –

* The User will navigate to ‘Login as User’ page (i.e Step 4) in case he/she has not logged in as User.
* The user will navigate to ‘Booking’ page in case he has already logged in as User.
* On the ‘Booking’ page user can see the flight details as well as the user details.
* On clicking on ‘Continue Booking’ Button, the user will navigate to Payment Page where he needs to enter the Card details(dummy) to Continue Booking the flight. In case any field is left empty, error message will be displayed.
* On clicking on ‘Confirm Booking’, a message will be displayed that the flight is booked successfully.