

## **CASE STUDY 4**

### **Problem Statement – 1:**

Unit Testing A unit is the smallest block of code that functions individually. The first level of testing is Unit testing and this problem statement is geared towards the same.

- Discuss with your teammates and demarcate units in your code base
  - Note: discuss why the code snippet you have chosen can be classified as a unit
  - Develop test cases for both valid and invalid data
  - Ideate how you could further modularize larger blocks of code into compact units with your teammates
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- The first unit is the registration of the user with appropriate details that needs to be remembered later for the purpose of logging in.
  - The second unit comprises of the user logging in with the same details provided at the time of registration and after proper authentication, is let in for accessing the various options available with the flight.

This includes provisions that can each be viewed as units, which are:

- Viewing the already booked flight tickets
  - Booking a new flight ticket
  - Cancelling an already booked ticket
- The third unit is the administrator and their privileges. The administrator is entitled to the following privileges each of which forms a testing unit.
    - Schedule Flight
    - View Ticket details of booked flights
    - Cancel Flight
    - Activating a Flight
    - Deactivating a Flight
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- The payment details of the user displayed forms a separate unit as it accessed by the audience section for viewing the transactions performed
  - The 'ABOUT US' page gives details of the developers of the project for contact regarding further clarification on the subject

No.	Input given	Expected Output	Actual Output Occurred	Test Pass	Action Taken
1	Register, user details	New user successfully registered	Successful registration of new user	Yes	
2	Register, user details	New user successfully registered	Gmail or phone number invalid	No	Enter valid gmail or phone number
3	Login, Sanjana19	Welcome Page	Successfully Authenticated	Yes	
4	Login, Janvi	Welcome Page	Invalid Password for user	No	The correct password **** is given for user admin
5	Flight details to search for	Entered flight details	Available Flight details displayed	Yes	
6	Flight details to search for	Entered flight details	No flights available	No	Enter valid Flight No.
7	Ticket details	Book ticket	Successful ticket booking	Yes	
8	Ticket details	Book ticket	Ticket booking not confirmed	No	Enter valid ticket details for an available flight
9	PNR, user	Ticket cancelled	Successful ticket cancellation	Yes	
10	PNR, user	Ticket cancelled	Invalid PNR	No	Enter valid PNR
11	Flight Schedule, admin	Enter flight schedule details	The flight details added successfully	Yes	

12	Flight Schedule, admin	Enter flight schedule details	Invalid Jet ID	No	Enter valid Jet ID
13	Flight details to delete	Successful deletion of entered flight	Successful deletion of entered flight	Yes	
14	Flight details to delete	Successful deletion of entered flight	Invalid Flight No. entered	No	Enter valid Flight No.
15	Flight No to view list of booked tickets	The booked tickets of entered flight	Tickets booked in the particular flight	Yes	
16	Flight No to view list of booked tickets	The booked tickets of entered flight	Invalid Flight No.	No	Enter the valid flight no.
17	Flight No. to activate or deactivate	Flight activated/deactivated success	Successful activation/deactivation of the jet	Yes	
18	Flight No. to activate or deactivate	Flight activated/deactivated success	Invalid jet ID	No	Enter valid jet ID

- The time required for correcting information can be reduced by displaying error message at the time of entering details
- Allow validity of flight details and jet details to be displayed at the time of entering details
- Ticket and flight availability is controlled and displayed by a subsystem in a controlled manner for easy coordination and control
- Allowing the use of appropriate highlights on invalid entering of required details
- Allowing for user operations to be done only through the admin for proper authentication and proper validation.
- Not having restrictions on the tickets that can be booked by a flight passenger in terms of time interval and number but allow for a smooth and reliable transaction control by not allowing for random bookings