Assignment 2.1  
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**Moffat Bay: TDD Assignment:**

**TDD Structure:**  
  
**QA Testing**

* 3.1 QA Test Plan

Scope of Testing

QA process will encompass the following domains:

Frontend Testing:

- Assessment of UI/UX adaptability across various devices (mobile, tablet, desktop).

- Verification of user interactions, forms, and navigation pathways.

Backend Testing:

- Evaluation of database integration for user registration, login, and reservation functionalities.

- API assessment to ensure secure communication between the frontend and backend systems.

Functional Testing:

- Examination of essential features such as registration, login, and reservation confirmation processes.

- Validation of the search functionality related to reservations.

Security Testing:

- Review of authentication and authorization protocols.

- Verification of password encryption and storage methods.

Performance Testing:

- Analysis of load capacity for concurrent user access.

- Measurement of response times for database queries.

Testing Methodology

1. Test Scenarios

Homepage:

Assess the layout, responsiveness, and content presentation across various browsers.

Confirm that the navigation bar accurately directs users to the appropriate pages.

Registration System:

Verify the required fields (name, email, password) are functioning correctly.

Examine password strength criteria through the use of regular expressions.

Ensure the generation of unique customer IDs and the secure storage of passwords in the database.

Login System:

Evaluate the login process using both valid and invalid credentials.

Confirm effective session management following a successful login.

Reservation System:

Check the form submission process for room selection, guest count, and check-in/out dates.

Test the accuracy of price calculations for different room categories.

Ensure that reservations are properly saved and can be retrieved from the database.

Reservation Lookup:

Examine the reservation search functionality using email and reservation ID.

Validate that the displayed data (room type, guest count, dates) corresponds accurately with the database records.

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| 2. Test Cases | |  |  |
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| Test Case ID | Scenario | Steps | Expected Outcome |
| TC001 | Homepage Load | Open the homepage in multiple browsers. | Homepage loads correctly. |
| TC002 | Registration Validation | Enter invalid email/password formats. | Error messages are displayed. |
| TC003 | Login with Invalid Credentials | Use incorrect username/password. | Access is denied with an error. |
| TC004 | Secure Password Storage | Inspect stored passwords in the database. | Passwords are hashed/encrypted. |
| TC005 | Reservation Save | Submit a valid reservation form. | Data is saved in the database. |
| TC006 | Lookup by Reservation ID | Search for a valid reservation. | Correct reservation details shown. |