Purpose of XSL Stylesheet

The XSL stylesheet (transform.xsl) transforms the XML data into an HTML format that is more user-friendly and suitable for display on a website. The HTML format organizes the data into a table, making it easy for users to view and understand the travel booking details.

Purpose of XSD Schema

The XSD schema (travelBooking.xsd) defines the structure and rules for the XML data. It ensures that the data adheres to specific constraints, such as valid numeric values for prices and a pattern for booking IDs. This validation is crucial to maintaining data integrity and consistency.

Transformation and Validation Process

1. **Transformation**: The XML data is transformed into HTML using the XSL stylesheet. This process involves applying the XSL transformation to the XML file, resulting in an HTML file that presents the data in a structured table format.

2. **Validation**: The XML data is validated against the XSD schema to ensure compliance with the defined rules. This step checks for any schema violations, such as incorrect data types or values that fall outside the specified range.

Testing Scenarios

- **Valid Data**: The XML data is well-formed and adheres to the XSD schema, resulting in successful validation.

- **Invalid Data**: Test cases where the XML data violates schema rules, such as an invalid price (e.g., negative or above the maximum allowed) or an incorrect booking ID pattern. These tests demonstrate the schema's ability to catch errors.

Summary of Errors and Issues

- **Error 1**: An invalid price of 50 in one of the bookings was flagged during validation, as it was below the minimum allowed value of 100.

- **Error 2**: A booking ID of ABC123 was flagged due to not matching the required pattern of two uppercase letters followed by four digits.