Report on Transformation and Validation Process for ShopSmart

Introduction:

The purpose of this report is to document the process of transforming and validating data for the e-commerce company "ShopSmart." This report outlines the steps taken to create and validate an XML schema (XSD), generate XML data, transform it into HTML using XSLT, and provide error handling for validation.

Transformation and Validation Process:

1. **XML Schema (XSD):**

   An XSD schema was created to define the structure of the XML data.

   Constraints such as maximum and minimum values for elements like "id" and "price" were specified to ensure data consistency.

2. **XML Data:**

   An XML file was generated to represent products for ShopSmart.

   This file adheres to the XSD schema, ensuring data integrity.

3. **XSL Stylesheet:**

   An XSLT stylesheet was developed to transform the XML data into HTML for display.

   The HTML table format was chosen for clear presentation.

Testing Scenarios:

Various test scenarios were conducted to ensure the robustness of the solution.

Testing included cases where the XML data violated schema rules, which helped identify validation errors.

Error Handling:

Error handling was implemented in the Python script to capture and report validation errors.

Suggestions for correcting common validation errors were provided to facilitate data quality.

Conclusion:

The transformation and validation process for ShopSmart data were successfully completed.

The assignment demonstrated proficiency in XSLT, XSD, and data transformation.

Error handling enhances data quality and user experience.