Pre Activity Database

1. Explain what XML is and how it differs from HTML. Provide one practical use case where XML would be more suitable than HTML.
2. In your own words, why might a relational database like SQL Server allow the use of XML as a data type? What are the potential benefits and drawbacks?
3. Given the XML below, how would you describe its structure? Identify the root element, child elements, and any nested relationships.

<order>

<customer>

<name>John Doe</name>

<email>john@example.com</email>

</customer>

<items>

<item>

<product>Keyboard</product>

<quantity>1</quantity>

</item>

<item>

<product>Mouse</product>

<quantity>2</quantity>

</item>

</items>

</order>

### **The following XML is stored in a column named** OrderDetails **in a table called** OrdersTable**. Write an SQL query using the** .value() **method to retrieve the customer’s email.**

<order>

<customer>

<name>John Doe</name>

<email>john@example.com</email>

</customer>

<items>

<item>

<product>Keyboard</product>

<quantity>1</quantity>

</item>

<item>

<product>Mouse</product>

<quantity>2</quantity>

</item>

</items>

</order>

1. If you were asked to generate a report showing all products in all orders from an XML column, how would you approach the task in SQL Server using. nodes () and .value () methods? Describe your approach step by step.
2. Critical Thinking: In what scenarios would you prefer to store data in XML format in a relational database rather than using traditional table structures? Justify your answer with at least one example.