

CS5421 Assignment 3



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Question 1(d)

Determine whether the XML document is lossless or lossy. If it is lossless, explain why in your (2) report. If it is lossy, explain why and write an SQL query that shows the missing data in your report.

The XML document is lossy.

A lossless XML indicates that the original data is restored. However, in Q1's query, some data might be lost.

- Since we use inner join to query data, when a warehouse does not have any items in stock, it will not be printed in XML. In this case, the information(name, address) of the warehouse will be lost.
- Also, then an item does not appear in any warehouses, the information(id, i_id, name, qty, price) of the item will be lost.
- For stock table, if a data entry stores quantity for warehouse or item that does not come from the list of the w_id in warehouse table and i_id in item table, it will not be printed on XML and will be lost.

Query to find the losing data:

```
SELECT s.w_id, s.i_id, w.w_id, i.i_id
FROM stock s
FULL OUTER JOIN warehouse w
ON s.w_id = w.w_id
FULL OUTER JOIN item i
ON s.i_id = i.i_id
WHERE s.w_id IS NULL OR s.i_id IS NULL OR w.w_id IS NULL OR i.i_id IS NULL;
```

From the current data, the query gives 0 entries. However, the XML structure is still lossy.

Question 2

In your report, provide a screenshot showing that your XML is valid using one of the two software.

