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| **Course Title:** | Fundamentals of Data Engineering |
| **Course Number:** | COE 848 |
| **Semester/Year (e.g.F2016)** | W2021 |
|  |  |
| **Instructor:** | Dr. Faezeh Ensan |
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|  |  |
| *Assignment/Lab Number:* | 6 |
| *Assignment/Lab Title:* | Semi Structured Data |
|  |  |
|  |  |
| *Submission Date:* | April 13, 2021 |
| *Due Date:* | April 13, 2021 |

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| --- | --- | --- | --- | --- |
| **Student LAST Name** | **Student FIRST Name** | **Student Number** | **Section** | **Signature\*** |
| Shreekant | Vatsal | 500771363 | 01 | VS |

*\*By signing above you attest that you have contributed to this written lab report and confirm that all work you have contributed to this lab report is your own work. Any suspicion of copying or plagiarism in this work will result in an investigation of Academic Misconduct and may result in a “0” on the work, an “F” in the course, or possibly more severe penalties, as well as a Disciplinary Notice on your academic record under the Student Code of Academic Conduct, which can be found online at:* [*http://www.ryerson.ca/senate/current/pol60.pdf*](http://www.ryerson.ca/senate/current/pol60.pdf)

The figures included below are the tables, relationships and queries implemented in XML as representations of the Amazon.db. The XSLT files were created for arranging different parts of the XML file as well as a substitute for the conventional CSS file in an HTML project. In order to maintain the correlation between the “dump” tables in Sqlite and the XML files, the headers, rows and columns order was maintained in the figures below.

ER Diagram:

Diagram

Description automatically generated

Figure 1: Entity-Relationship Diagram (ERD) of an e-commerce platform such as Amazon

**Tables:**

Table

Description automatically generated

Figure 2: Table of Customers

Table

Description automatically generated

Figure 3: Table of Order Description

Table

Description automatically generated

Figure 4: Table of Products

Table

Description automatically generated

Figure 5: Table of Deals

Table

Description automatically generated

Figure 6: Table of Reviews

Table

Description automatically generated

Figure 7: Table of Billing Detail

**Relationships:**

Table

Description automatically generated

Figure 8: Table of ‘Places’ Relationship

Table

Description automatically generated

Figure 9: Table of ‘Contains’ Relationship

Table

Description automatically generated

Figure 10: Table of ‘Display’ Relationship

Table

Description automatically generated

Figure 11: Table of ‘Has’ Relationship

Table

Description automatically generated

Figure 12: Table of ‘Write’ Relationship

**Queries:**

**Table

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Figure 13: Query #1: Products offered on the company website, their description, their category and their manufacturer.

Table

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Figure 14: Query #2: Products listed by their ratings.

Table

Description automatically generated

Figure 15: Query #3: Are highly rated products built by the same manufacturer?

Table

Description automatically generated

Figure 16: Query #4: The products that are bought by the customers on a daily basis.

A picture containing diagram

Description automatically generated

Figure 17: Query #5: In the event of a sale/discount day, which products are the least bought?

Table

Description automatically generated

Figure 18: Query #6: What products are offered through the company warehouse and not from the manufacturer?

Table

Description automatically generated

Figure 19: Query #7: What products are out of stock and in customer demand?

Table

Description automatically generated

Figure 20: Query #8: Products that offer a subscription service in lieu of a one-time purchase.

Graphical user interface

Description automatically generated with medium confidence

Figure 21: Query #9: Products that are released 1 day before the stat holidays.

Table

Description automatically generated

Figure 22: Query #10: The products associated with concerning reviews and high rating.

**Amazondatabase.xml Schema:**

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<?xml-stylesheet href="amazondatabase.xslt" type="text/xsl" ?>

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