Objective:

Learn basic SQL concepts. Learn how to build relations between entities. Learn what normalization is.

Theory:

- https://www.ibm.com/cloud/learn/relational-databases
- https://www.mongodb.com/nosql-explained
- https://www.sqlshack.com/learn-sql-types-of-relations/
- https://docs.microsoft.com/en-us/office/troubleshoot/access/database-normalization-description

Task:

Deadline: 3-4 days

Requirements:

1. Read about relational, NoSQL databases.
2. Read about relations between tables in relational databases.
3. Read about database normalization.
4. Implement Entity Relationship Diagram for your future web application.

You can use online tools to generate ERD. Diagram should include all the entities for the e-store, all properties with data types and relations between tables.

Answer all of these questions to be prepared:

1. What is the difference between relational and NOSQL databases? Where are they used? When SQL does suit better than NoSQL, and otherwise?
2. How to implement *one-to-one*, *one-to-many* and *many-to-many* relationships? What is Primary Key? What is Foreign Key? What other unique constraints are available?
3. What are 1NF, 2NF and 3NF? Why is it important to have your database normalized?

4. What are the cases to denormalize your database?