

Lab # 9: ER Design Case Study

Objective:

- ER Modeling

Scope:

Study and apply ER Modeling in the form of a Case Study.

CASE STUDY

Consider the following scenario:



In a big retail Super Store ABC, products are supplied by the supplier. Each product belongs to a certain category, for example, butter, cheese, milk etc. lie under category named as Dairy. There are regular customers of ABC, one customer can give many orders and many products can be supplied corresponding to one order. In other words, in one order there must be at least one product or more than one. Also, a product is normally order by many customers under each of their orders.

Company's employee (e.g., Salesman) assists customers for purchasing of products. For example, he/ she will send booked orders or deliveries through shipments, after consulting with regular shippers. The question is how customer places an order? It's very simple; a customer gives an order on telephone or by fax/email to a particular employee (salesman) of this super store. Super store requires various reports of loss and profit, list of products etc. Retail store requires searching of various information such as products, employees, customers, and sales tracking.

Task 1:

Identify all relationships, involving entities and their attributes. Draw ER-Model (ER-Diagram) of the given case study. Initially use pen and paper to draw ERD then use Toad Data Modeler /Visio/ draw.io (online) or any other tool to draw the ER-Diagram.

Task 2:

Create Dataset. Data must be logically correct keeping in view the relations. Insert enough data in all tables to cover different scenarios.

Task 3:

- Create table, drop table DDL scripts with appropriate Datatypes, Column constraints like UNIQUE, NOT NULL, CHECK etc.
- Insert the data that you have created in task 2 (dataset creation) into created tables.
- Provide at least three SQL queries and their output (screenshot) on your implemented schema. These queries should be related to the highlighted text of the given case study.

Note: While performing above tasks you may find mistake/s in your ERD that you have submitted earlier in lab-09. In that case you can update your ER-Model or otherwise you can use your earlier ERD.

Submission:

Word Document should include:

- ER-Model (latest)
- Schema Diagram
- Dataset
- Complete DDL script for tables creation and tables drop.
- Complete data insertion SQL script
- SQL queries and their output (screenshot)