1Nebula Data Engineer Challenge

Question 1
Using the files given, design a SQL database that can store data of this nature. Send us the ERD of the proposed database in any format you prefer. Eliminate data redundancies where possible.

Question 2
The company has decided to give each employee a company email. All current email addresses will be ported over, but the Host will change to “company”. As an example, please refer to Figure 1.

The email in Figure 1 will be updated to example@company.com. They need you to update the database to reflect this change. Import the attached CSV employee file to SQL as a table and come up with a SQL script to update all employee email addresses in the table accordingly. Please note*

- The user must remain unchanged.
- The domain must remain unchanged.

Question 3
Imagine you are designing a data model for an e-commerce platform. The system needs to capture information about customers, products, orders, and order items. Please describe how you would approach modelling these entities and their relationships. Consider the following requirements:

- Customers can place multiple orders, and each order is associated with a single customer.
- Each order can contain multiple items, and each item is associated with a single order.
- Products can be associated with multiple orders, but each product can only appear once in a single order.
- You need to capture customer information, including name, address, and contact details.
- Products have attributes like name, price, and description.
- Orders should store details such as order date, total price, and order status.
- Describe the entities, attributes, relationships, and any constraints you would use in your data model. Explain your choices and consider which data modelling approach (e.g., Entity-Relationship Diagram, relational schema) would be the most suitable for this scenario.