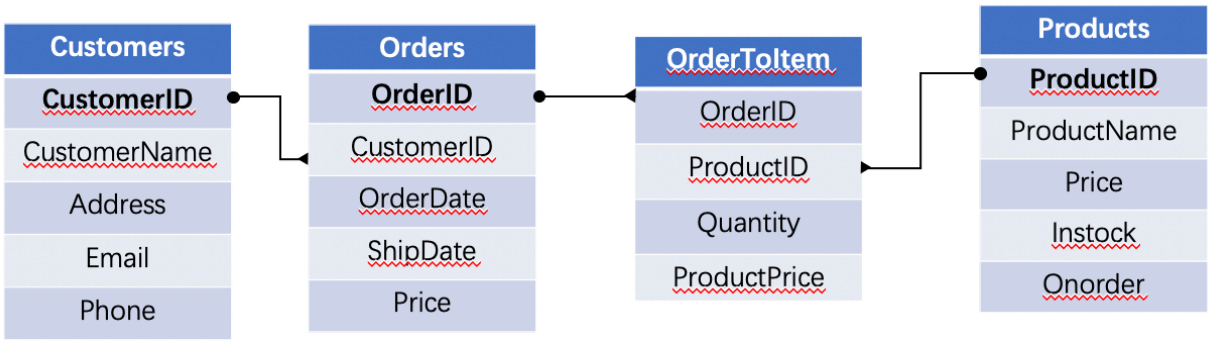
Lab 6: Database Design

1. Design a database diagram for a product orders database with four tables. Indicate the relationships between tables and identify the primary key and foreign key in each table. Explain your design decisions.

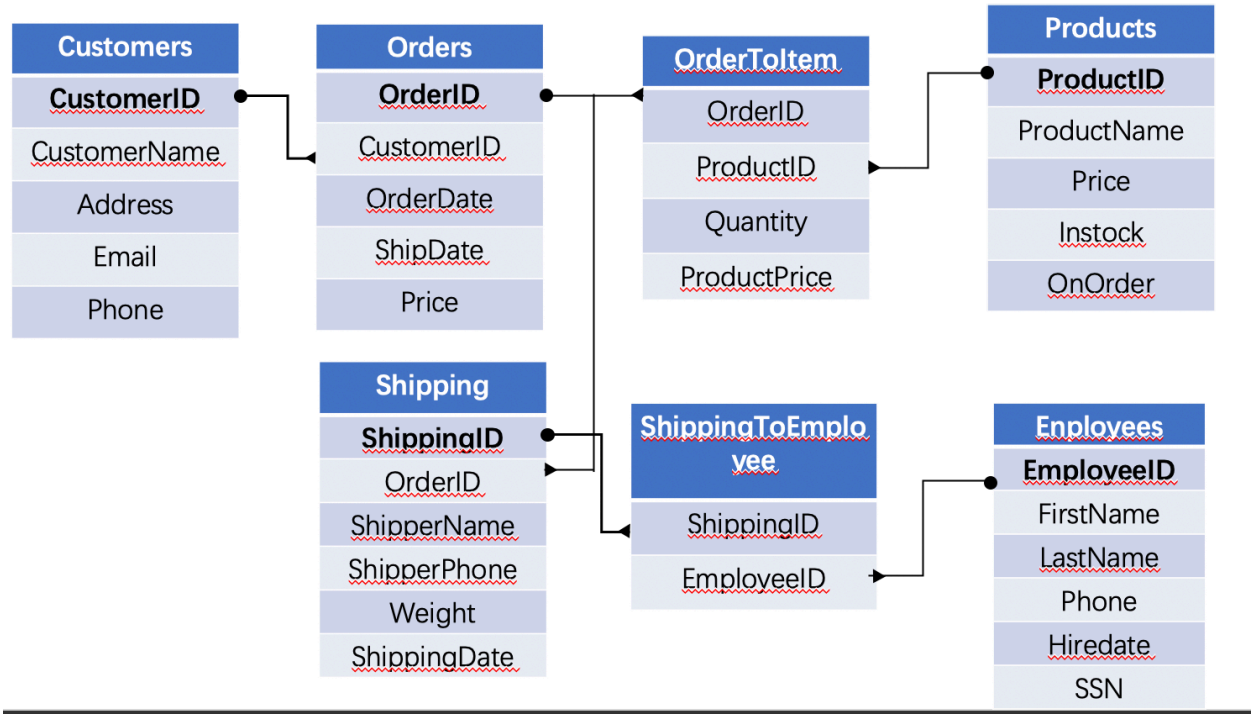


Primary Key:
Customers Table : CusromerID
Orders Table : OrderID
Products Table : ProductID
Foreign Key:
Orders Table : CustomerID
OrderToItem Table :OrderID, ProductID

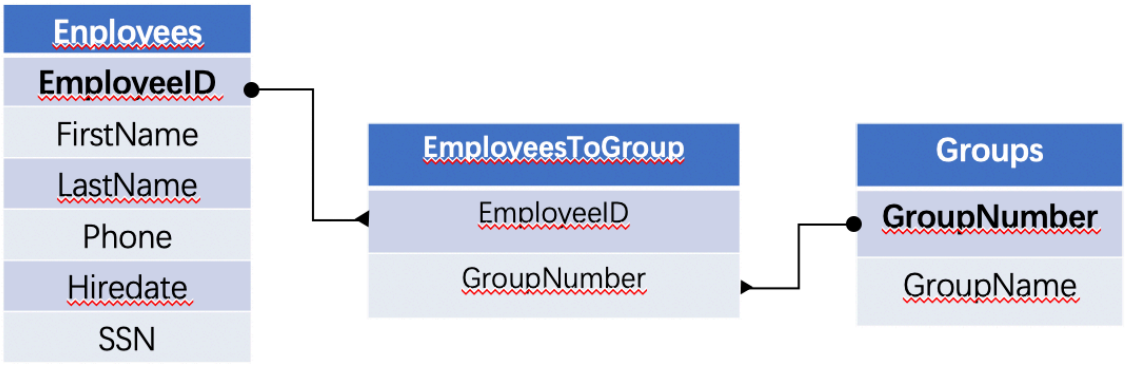
Since the relationship between the customers table and the orders table is one to many The Orders table and the OrderToItems table is also one to many and the OrderToItem is the linking table between Orders and products.

2. Add the two tables below into the design for question 1. Create additional tables and columns if necessary. Explain your design decisions.

Since the relationship between Shipping table and Employees table is many-to-many, I introduce a linking table.



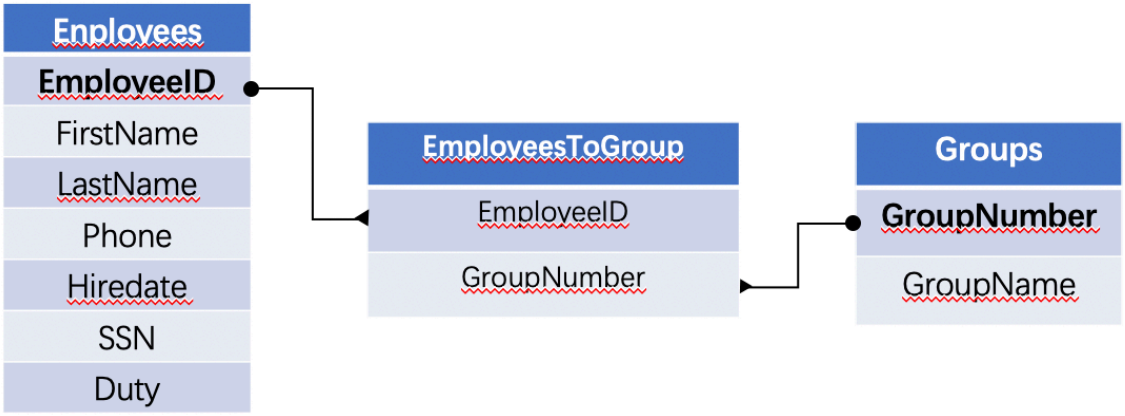
3. Design a database diagram that allows employees to be assigned to different groups for different duties, and each employee can be in one or more groups. There is no limit of number of individuals in each group. Create additional tables and columns, if necessary. Explain your decisions.



Primary Key:
Employees Table: EmployeeID
Groups: GroupNumber
Foreign Key:
EmployeesToGroup Table: EmployeeID, GroupNumber

I add a linking table since there is a many-to-many relationship between the employees and the groups.

4. Modify your design for question 3 to keep track of the duty assigned for each employee in each group. Each employee can only have one kind of duty in each group. Each group has a unique set of tasks for the employee to fulfill. Create additional tables and columns if necessary. Explain your decisions.



I introduce a new column as Duty since each employee could be able to serve only one kind of task in each group.