DATABASE – S8 PRACTICE

Exercise 1: Design Foodpanda's relational database

Foodpanda is a Cambodian application where customers can order different meals from a restaurant. After they have ordered, they can either pick up the order at the restaurant or be delivered by a delivery person.

The goal of this exercise is to make you design the Entity Relationship Diagram of the Foodpanda database just by understanding how the application works.

Below is a description of how Foodpanda's database entities are related. Read id carefully, each point is important.

CUSTOMER

- The CUSTOMER has an account on the application. When he creates his account, he needs to inform his **first name**, **last name**, **email address**, **phone number**, and **postal address**.
- The **CUSTOMER can make as many ORDERS** as he want with the application

ORDER

- An **ORDER is made by one CUSTOMER.**
- An ORDER is described by the **total price** of the ORDER, the **date** of the ORDER. **If** the CUSTOMER will **pick up** the ORDER at the RESTAURANT or **if** he has it **delivered.** The **address of delivery** if he has it delivered.
- If the **ORDER is delivered, it is taken care of by one delivery person**
- An **ORDER can contain many FOOD ITEMS**.
- An **ORDER can be made only in one RESTAURANT.**

FOOD ITEM

- A FOOD ITEM is described by his **name**, his **unit price,** his **food category**, and the **RESTAURANT where it is cooked.**
- One **FOOD ITEM can appear in different ORDERS**.

RESTAURANT

- A RESTAURANT is described by his **name**, his **address,** his **website**, his **phone number** and his **restaurant category**
- **One RESTAURANT can take care of many ORDERS**
- **One RESTAURANT has many FOOD ITEMS to offer**

DELIVERY PERSON

- The DELIVERY PERSON is described by his **name**, his **phone number** and his **vehicle** (scooter or bike or car or tuktuk)
- **One DELIVERY PERSON can take care of many ORDERS**

ADDRESS

- The **ADDRESS** is described by its **street**, its **city** and its **province**.
- In Foodpanda:
    - the **addresses of where live the customers** are stored
    - the **addresses of where the order is delivered** is stored
    - the **addresses of the restaurants** are stored

QUESTIONS

Q1) List the entities that compose the Foodpanda's database. You need to find 6 entities.

Q2) Represent the table schema/model of each entity (6 entities including the Delivery Person) with their attribute and the data type of the attributes. Don't forget the id.

Example: the table schema of the DELIVERY PERSON

DELIVERY PERSON		
PK	*Delivery person ID* *Name* *Phone number* *Vehicle*	*Numeric* *String* *Numeric* *String*

Table 1: DELIVERY PERSON TABLE MODEL

Q3) Identify the relation between each entity that are related (One to many, Many to Many) and justify your answer. You should find 8 relations between the 6 entities.

Example: relation between the FOOD ITEM and the RESTAURANT tables
The relation between FOOD ITEM and RESTAURANT is MANY TO ONE. Because according to the description of Foodpanda, one restaurant can have many food items to offer, and one food item is described by the restaurant in which it is cooked. It cannot come from different restaurant.

Q4) ONE TO MANY RELATIONS: Now that you have identified the relations, select the ONE TO MANY relationship and make the Entity Relationship Diagram of each relation. Add the Foreign Keys.

Example: relation between the FOOD ITEM and the RESTAURANT tables. I added the Restaurant id as a foreign key the the FOOD ITEM table.

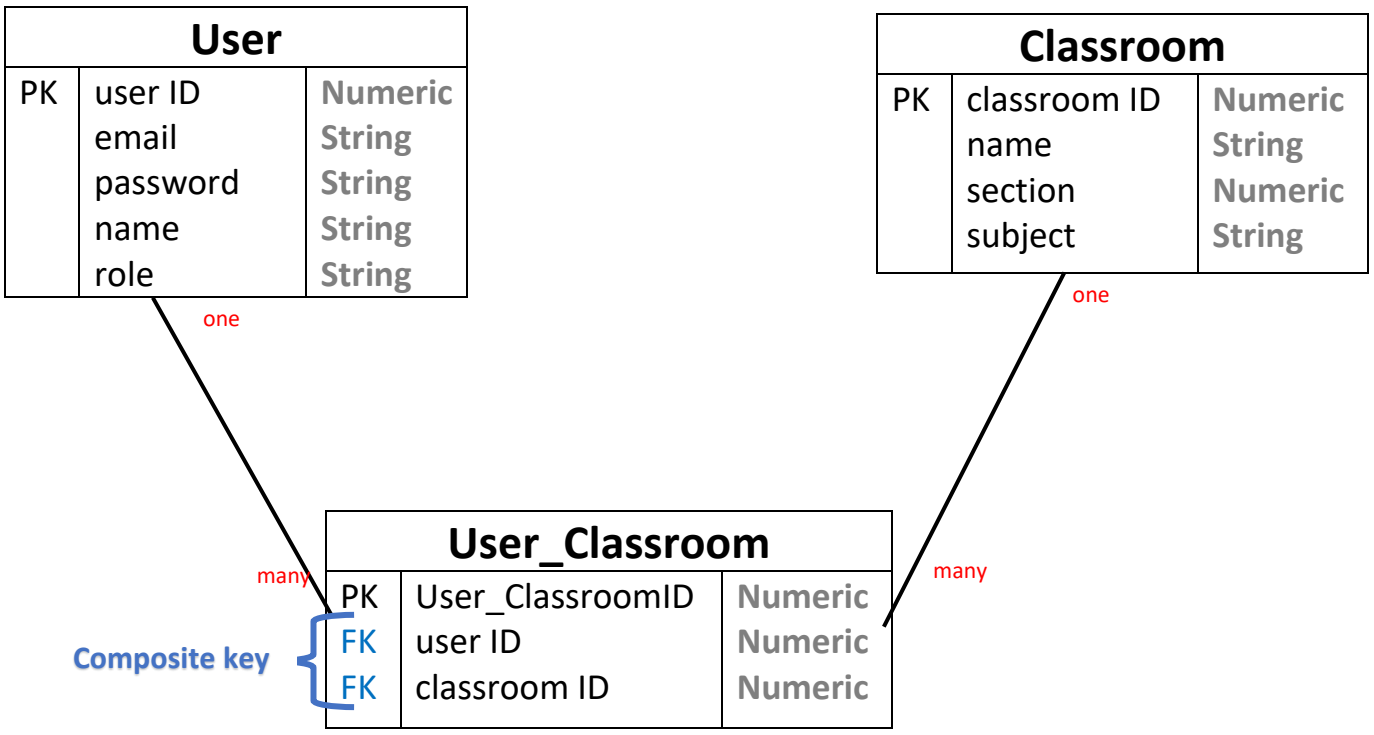
FOOD ITEM		
PK	*XXX*	*XXX*
	XXX	*XXX*
FK	***Restaurant id***	***numeric***

many — one

RESTAURANT		
	XXX	*XXX*
	XXX	*XXX*
	XXX	*XXX*

Q5) MANY TO MANY RELATIONS: You should have identified only one MANY TO MANY relation. Design the **intersection table** in order to represent the Entity Relationship Diagram of this relation.

Example from previous practice on Google Classroom Database: relation between USER and CLASSROOM. You had to create the intersection table User_Classroom.



Q6) Merge the Entity Relationship Diagram of each relation to design the Entity Relationship Diagram of the Foodpanda database.

Example from previous practice: Entity Relationship Diagram of the Google Classroom database