

Relational Databases Modeling and Design

Part 1: Introduction to Databases

Practical Work 4: Data Manipulation Language

Nga Nguyen

We use the same relational database as in the previous practical work:

Customer(id, name, address, zipcode)

Order(id, odate, *id_customer*)

Order_item(id, *id_order*, num_item, *id_product*, quantity)

Product(id, label, stock, price)

Add the following lines into your script **order_tables.sql** :

```
INSERT INTO Customer VALUES (1,'Dupond', 'Pierre', '35 rue St Honoré Fontainebleau', 77300) ;
```

```
INSERT INTO Customer VALUES (2, 'Dupond', 'François', '35 rue St Honoré Fontainebleau', 77300) ;
```

```
INSERT INTO Product VALUES (1, 'Evian 2lx6', 4000, 2.99);
```

```
INSERT INTO Product VALUES (2, 'Lu Cracotte Framboise', 800, 3.99);
```

```
INSERT INTO Product VALUES (3, 'Nectar de Mangue', 4000, 2);
```

```
INSERT INTO Product VALUES (4, 'Contrex', 0, 2);
```

Exercise 1. Perform the following SQL queries and explain the reason of eventually encountered errors.

1. Insert the following data into the Customer table:
 - 5, Dupont, Jean, 1 avenue du parc Cergy, 95011
 - 2, Martin, Philippe, 35 Champs Elysées Paris, 75008
 - 4, Martin, Philippe, 35 Champs Elysées Paris, 75008
2. Add the order number 1 of the customer number 2 with the order date equals to August 30th 2008.
3. Add the order number 2 of the customer number 5.
4. Add the following rows into the Order_item table :
 - 1, 1, 1, 1, 5
 - 2, 1, 1, 2, 53
 - 3, 5, 2, 1, 7
5. Modify the zip code of "35 rue St Honoré Fontainebleau" by 77305.
6. Delete the product whose label contains "Cracotte".
7. Delete the customer Dupond François.

Exercise 2. Realize the following queries:

1. What is the stock of the product whose label contains the word "nectar"?
2. What are the customers whose name starts with the letter p regardless of the case?
3. What are the names of customers that do not contain the letter e?
4. Sort products by price in descending order.

5. Calculate the total price of each product in stock.
6. Calculate the sum of the prices of all products in stock.
7. Calculate the average price of products.
8. What is the most expensive product?
9. Count the number of orders for the year 2007.
10. Give the label of products that have the same price as a bottle of Mango nectar.
11. What are the products that cost more than the average price of all products?