César Mata Rodríguez- Data Analisys - TP3

Part 1

1. **Display and explore all columns from the products table**
   SELECT *
   FROM products

2. **Display and explore all columns from the orders table**
   SELECT *
   FROM orders

3. **Display all the products' names**
   SELECT product_name
   FROM products

4. **List all the different categories**
   SELECT DISTINCT category
   FROM products

5. **How many orders have been placed?**
   SELECT COUNT(*)
   FROM orders

6. **What are the lowest, highest, and average product prices?**
   SELECT MIN(price), MAX(price), AVG(price)
   FROM products

Part 2

1. **Display product name with their corresponding price**
   SELECT product_name, price
   FROM products

2. **Which products cost more than 1000€?**
   SELECT *
   FROM products
   WHERE price > 1000

3. **How many products cost less than 100€?**
   SELECT COUNT(*)
   FROM products
   WHERE price < 100

4. **What is the average price per product category?**
   SELECT category, AVG(price) AS avg_price
   FROM products
   GROUP BY category

5. **What is the total ordered quantity per product?**
   SELECT product_id, SUM(quantity) AS total_quantity
   FROM orders
   GROUP BY product_id

6. **Find the customer who made the most orders**
   SELECT customer_id, COUNT(id) AS order_count
   FROM orders
   GROUP BY customer_id
   ORDER BY order_count DESC
   LIMIT 1

Part 3

1. **Display for each customer id the corresponding total turnover**
   SELECT orders.customer_id, SUM(products.price * orders.quantity) AS total_turnover
   FROM orders
   JOIN products
   ON orders.product_id = products.id
   GROUP BY orders.customer_id

2. **Which day generated the highest turnover?**
   SELECT orders.order_date, SUM(products.price * orders.quantity) AS total_turnover
   FROM orders
   JOIN products
   ON orders.product_id = products.id
   GROUP BY orders.order_date
   ORDER BY total_turnover DESC
   LIMIT 1

3. **Give the number of orders per customer name**
   SELECT customers.name, COUNT(orders.id)
   FROM customers
   LEFT JOIN orders
   ON customers.id = orders.customer_id
   GROUP BY customers.name

4. **Who are the top 3 customers who made the most orders?**
   SELECT customers.name, COUNT(orders.id) AS total_orders
   FROM customers
   JOIN orders
   ON customers.id = orders.customer_id
   GROUP BY customers.name
   ORDER BY total_orders DESC
   LIMIT 3

5. **Which customers have not yet done any order?**
   SELECT customers.name
   FROM customers
   LEFT JOIN orders
   ON customers.id = orders.customer_id
   WHERE orders.id IS NULL

Part 4

1. **The product margin is 10%. Display the margin of each product.**
   SELECT id, price * 0.1 AS margin
   FROM products

2. **What is the total margin?**
   SELECT SUM(price * 0.1) AS total_margin
   FROM products

3. **What is the total margin generated per product category?**
   SELECT category, SUM(price * 0.1) AS total_margin
   FROM products
   GROUP BY 1

4. **Count the total quantity ordered per product per day.**
   SELECT products.product_name, orders.order_date, SUM(orders.quantity) AS total_quantity
   FROM orders
   JOIN products
   ON orders.product_id = products.id
   GROUP BY products.product_name, orders.order_date