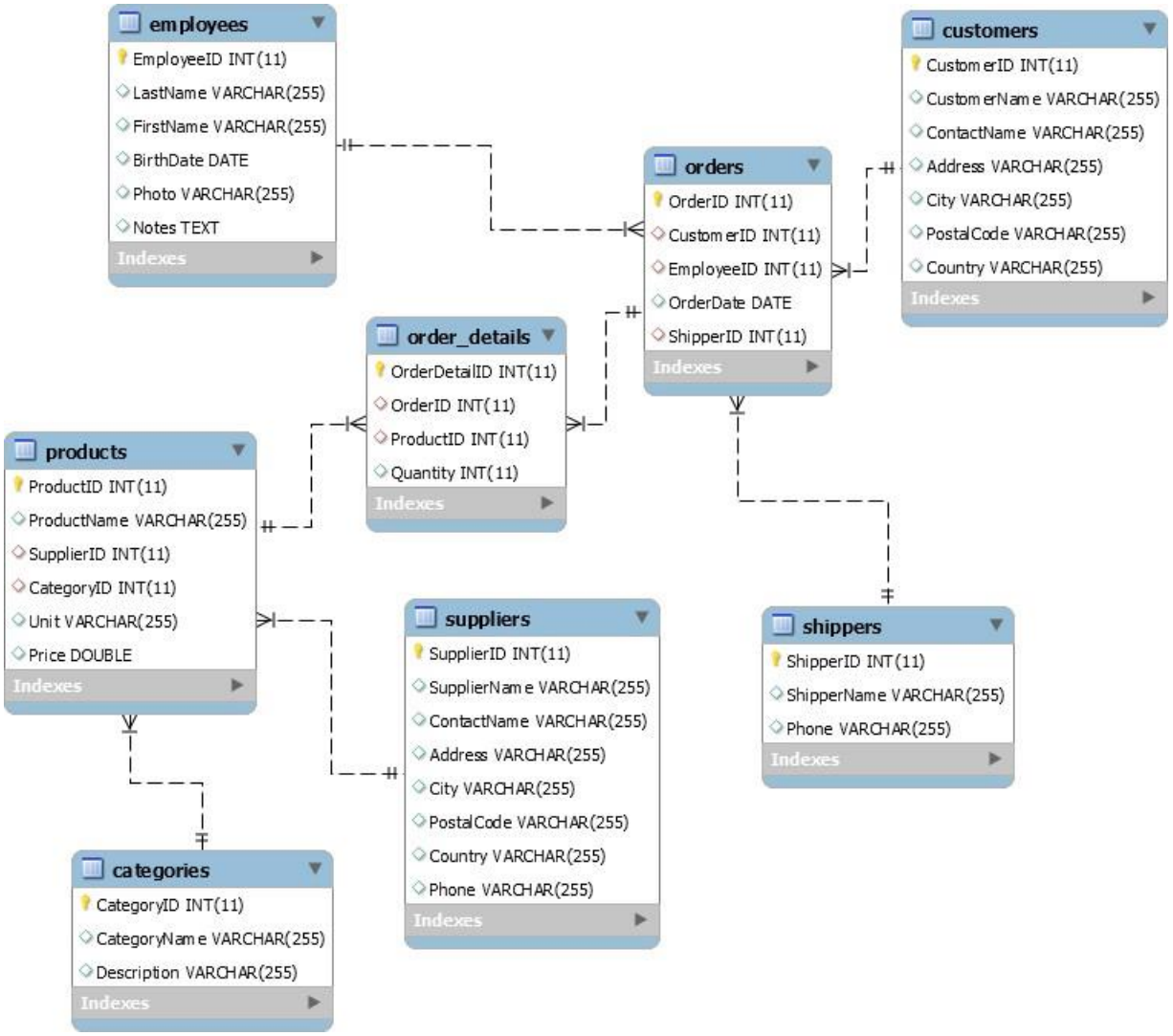
Context:

- Your objective is to write SQL queries to extract meaningful insights, calculate performance metrics, and answer specific sales-related questions.
- You will find attached the **database.sql** file you need to run it on MySQL workbench and it will create the database schema and insert the data inside it so you can query the database.

Database Schema:



Tasks:

1. Write an SQL query to calculate the total revenue generated by the company.
2. Write an SQL query to find the top 5 customers who have made the highest total_amount of purchases. Include their CustomerID, CustomerName, and the total amount spent.
3. Write an SQL query to calculate the average order total_amount for each month of the year. The result should include the month and the average total_amount.
4. Write an SQL query to identify the top-selling product category based on the total number of orders. Include the category and the count of orders.
5. Write an SQL query to calculate the total revenue generated by each product category.

The result should include the category and the total revenue.
6. Write an SQL query to find the month with the highest revenue and the total revenue.
7. Write an SQL query to calculate the customer retention rate. Consider customers who have made at least one purchase in the previous year as retained customers.
8. Write an SQL query to calculate the average order value for each customer, considering only customers who have made more than three purchases. Include the CustomerID, CustomerName, and the average order value.
9. Write an SQL query to find the top 3 customers who have made the highest average purchase amount per order. Include their CustomerID, CustomerName, and the average purchase amount.
10. Write an SQL query to calculate the monthly revenue growth rate. Compare the revenue of each month with the previous month and calculate the percentage growth. The result should include the month and the growth rate.
11. Write an SQL query to identify the top-selling product in each product category based on the total revenue generated. Include the category, ProductName, and total revenue.
12. Write an SQL query to calculate the customer lifetime value (CLV) for each customer. CLV is the average revenue generated by a customer over their entire lifetime. Include the CustomerID, CustomerName, and the CLV.
13. Write an SQL query to identify the top 5 customers who have shown the highest growth in total_amount spent compared to the previous year. Include their CustomerID, CustomerName, and the growth percentage.
14. Write an SQL query to calculate the average time between a customer's first and second purchase. Include the CustomerID, CustomerName, and the average time in days.
15. Write an SQL query to find the customers who have not made any purchases in the last six months. Include their CustomerID, CustomerName, and the date of their last purchase.
16. Write an SQL query to calculate the average number of orders per day of the week (Monday, Tuesday, etc.). The result should include the day of the week and the average number of orders.
17. Write an SQL query to identify the top 5 months with the highest number of new customers (customers who joined in that month). Include the month and the count of new customers.
18. Write an SQL query to calculate the total revenue generated by each customer in their first year. Include the CustomerID, CustomerName, and the total revenue.
19. Write an SQL query to find the customers who have made consecutive purchases for three or more months. Include their CustomerID, CustomerName, and the count of consecutive months.
20. Write an SQL query to calculate the average order value for each product category. Include the category and the average order value