

Programming Exercise 04

Subqueries and Table Expressions

Your deliverable should be a plain text file (`.txt`) that contains a header showing your name, the name of the assignment, and the date. The body of the text file should echo the SQL statement you use to complete each step of the exercise and the results of the query.

You should use the TSLV4 database with SQL Server to answer the following problems.

1. Use a derived table to build a query that returns the number of distinct products per year that each customer ordered. Use internal aliasing. Use a variable to set the customer number. For example, if the customer ID is 1234, the query should report the number of *distinct* products ordered by customer 1234 for the years 2014, 2015, and 2016.
2. Use multiple common table expressions to build a query that returns the number of distinct products per year that each country's customers ordered. Use external aliasing. Use a variable to set the country name. For example, if the country name is "France", the query should report the number of *distinct* products ordered by French customers for the years 2014, 2015, and 2016.
3. Create a view that shows, for each year, the total dollar amount spent by customers in each country for all the years in the database.
4. Create an inline table valued function that accepts as a parameter a country name and returns a table with the distinct products ordered by customers from that country. Products are to be identified by both product ID and product name.
5. Use the CROSS APPLY operator to create a query showing the top three products shipped to customers in each country. Your report should contain the name of the country, the product id, the product name, and the number of products shipped to customers in that country.