Homework 3

Instructions:

- Write your answers in a .doc or .pdf file and then submit it on Brightspace by the due date. The file should include for each question you are answering the following:
  - The question number
  - The SQL query that you created to answer the question
  - A screenshot of the output that your query produces.
- This assignment will require you to use again Northwind database, the one you used in HW1 and HW2.
- Below some of the questions there is a sample output, either all the rows or just the first few rows for long outputs (so if you output is longer than the one given to you in this homework, it's just because we limit the sample we show you to just a few lines, it doesn't mean that your answer is wrong). This sample output is aimed to guide you towards creating the correct query. Keep in mind though that, even if your output is the same with the given, your query may not be entirely correct, since different queries may lead to the same output. Grading is based on the correctness of the query and not only the correctness of the output.
- In this homework, not all questions have an output sample provided. In those, you are expected to infer from the question what the output should be like.
- Feel free to work in teams. However, each student must submit their own answers.
- Please do not include your name, username or usc id in your submitted file! Grading is anonymized.

Northwind Traders Company

Northwind Traders is a company that imports and exports food globally. The database captures all the sales transactions that occur between the company (Northwind) and its customers, as well as the purchase transactions between Northwind and its suppliers.

The following explains each table (used in this assignment) in the Northwind database:

Table	Description
Customers	who buy from Northwind
Orders	stores transaction sale orders from customers
OrderDetails	stores line items of sale orders
Products	the products that Northwind trades in
Suppliers	who supply to the company
Shippers	details of the shippers who ship the products from the traders to the end-customers
Employees	who work for Northwind

Check the ERD diagram below for more details on each of the above tables.
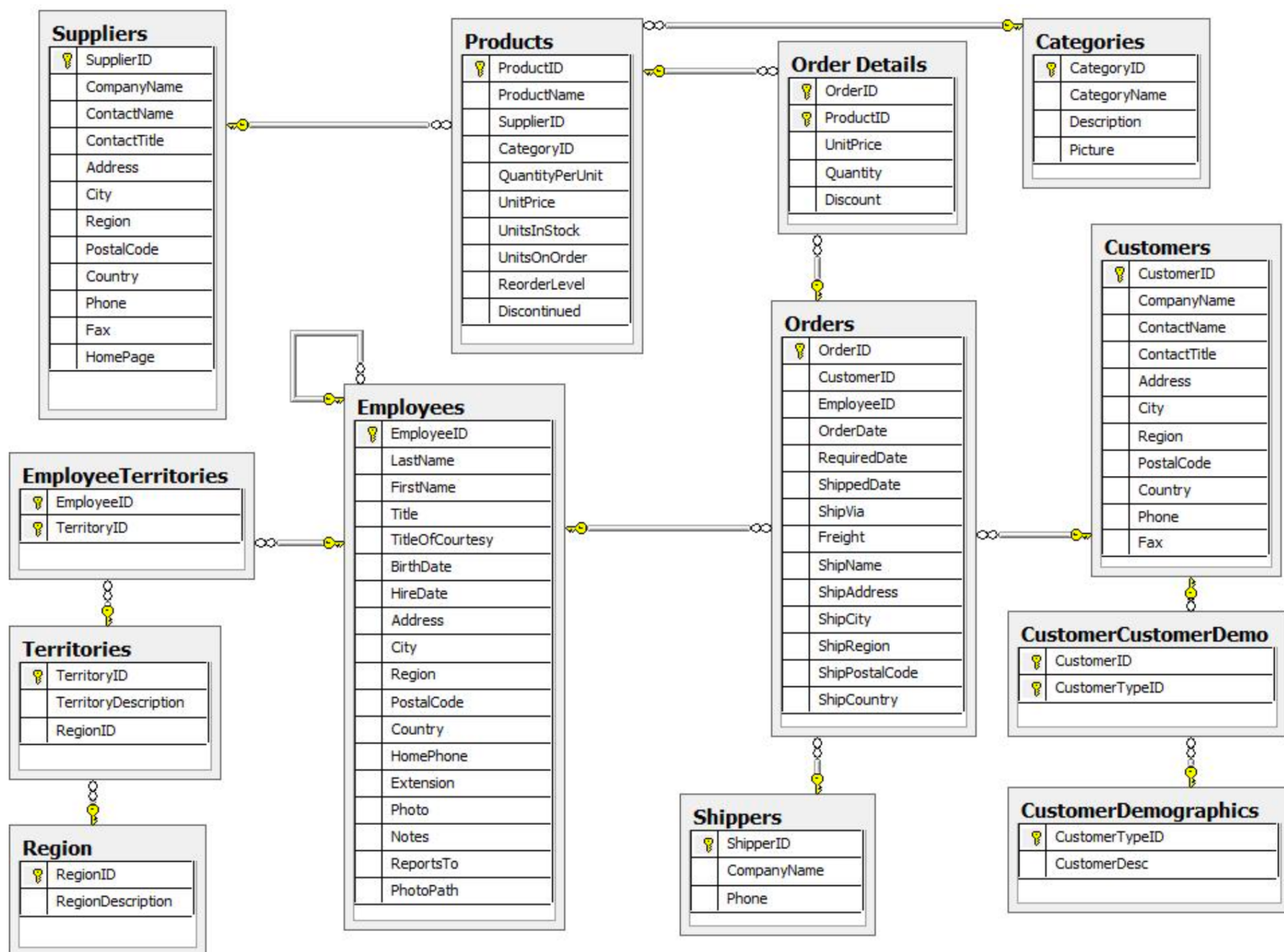
Figure 1: Northwind ERD

1. Retrieve the order ID, customer name, and order date for all orders placed by customers in Germany.

Sample Output:

orderid	companyname	orderdate
10,249	Toms Spezialitäten	1996-07-05
10,260	Ottilies Käseladen	1996-07-19
10,267	Frankenversand	1996-07-29
10,273	QUICK-Stop	1996-08-05
10,277	Morgenstern Gesundkost	1996-08-09
10,279	Lehmanns Marktstand	1996-08-13

2. List the product names and corresponding supplier names for all products supplied by suppliers located in the USA.

Sample Output:

productname	suppliername
Chef Anton's Cajun Seasoning	New Orleans Cajun Delights
Chef Anton's Gumbo Mix	New Orleans Cajun Delights
Grandma's Boysenberry Spread	Grandma Kelly's Homestead
Uncle Bob's Organic Dried Pears	Grandma Kelly's Homestead
Northwoods Cranberry Sauce	Grandma Kelly's Homestead
Sasquatch Ale	Bigfoot Breweries
Steeleye Stout	Bigfoot Breweries

3. Display the product names and the category names for all products in the 'Beverages' or the 'Condiments' category.

Sample Output:

productname	categoryname
Chai	Beverages
Chang	Beverages
Aniseed Syrup	Condiments
Chef Anton's Cajun Seasoning	Condiments

4. Show the order ID, customer name, and freight amount for all orders where the freight cost exceeds $100.

Sample Output:

orderid	companyname	freight
10,255	Richter Supermarkt	148.33
10,258	Ernst Handel	140.51
10,263	Ernst Handel	146.06
10,267	Frankenversand	208.58
10,270	Wartian Herkku	136.54

5. Northwind Traders will prioritze re-ordering a certain product if: (1) UnitsIn- Stock plus UnitsOnOrder are less than or equal to ReorderLevel, (2) the product is not discontinuted (Discontinued = 0), and 3) the product has been ordered more than 1 time. Which products need to be prioritized for reordering? Only display product id and name and sort output by product id.

Sample Output:

productid	productname
30	Nord-Ost Matjeshering
70	Outback Lager

6. How many orders were shipped by United Package and Speedy Express (combined) in 1997?

Sample Output:

orders1997
273

7. Northwind's operations team has noted the high cost of freight charges for Speedy Express shipments. For 1996, return the three

ship countries with the highest average freight, in descending average freight order, for orders fulfilled by Speedy Express.

Sample Output:

shipcountry	avg_freight
Finland	137
Austria	131
Germany	78

8. Some salespeople have more orders arriving late than other salespeople ("late" defined as RequiredDate <= ShippedDate). Which salespeople have at least 5 orders arriving late? Do not show any employees with less than 5 late orders and sort output starting with the employee that has the most late orders.

Sample Output:

lastname	firstname	lateorders
Peacock	Margaret	10
Callahan	Laura	5
Dodsworth	Anne	5
Leverling	Janet	5