Intermediate Problems

20. Categories, and the total products in each category

- For this problem, we'd like to see the total number of products in each category. Sort the results by the total number of products, in descending order.

21. Total customers per country/city

- In the Customers table, show the total number of customers per Country and City.

Country	City	TotalCustomer
UK	London	6
Mexico	México D.F.	5
Brazil	Sao Paulo	4
Brazil	Rio de Janeiro	3
Spain	Madrid	3
Argentina	Buenos Aires	3
France	Paris	2
USA	Portland	2
France	Nantes	2
Portugal	Lisboa	2
Finland	Oulu	1
Italy	Reggio Emilia	1
France	Reims	1
Brazil	Resende	1

... (skipping some rows)

Country	City	TotalCustomer
Canada	Montréal	1
Germany	München	1
Germany	Münster	1
Germany	Aachen	1
USA	Albuquerque	1
USA	Anchorage	1
Denmark	Århus	1
Spain	Barcelona	1
Venezuela	Barquisimeto	1
Italy	Bergamo	1
Germany	Berlin	1
Switzerland	Bern	1
USA	Boise	1
Sweden	Bräcke	1
Germany	Brandenburg	1
Belgium	Bruxelles	1

(69 row(s) affected)

22. Products that need reordering

- What products do we have in our inventory that should be reordered? For now, just use the fields UnitsInStock and ReorderLevel, where UnitsInStock is less than the ReorderLevel, ignoring the fields UnitsOnOrder and Discontinued.

- Order the results by ProductID.

Expected Results

ProductID	ProductName	UnitsInStock	ReorderLevel
2	Chang	17	25
3	Aniseed Syrup	13	25
11	Queso Cabrales	22	30
21	Sir Rodney's Scones	3	5
30	Nord-Ost Matjeshering	10	15
31	Gorgonzola Telino	0	20
32	Mascarpone Fabioli	9	25
37	Gravad lax	11	25
43	Ipoh Coffee	17	25
45	Rogede sild	5	15
48	Chocolade	15	25
49	Maxilaku	10	15
56	Gnocchi di nonna Alice	21	30
64	Wimmers gute Semmelknödel	22	30
66	Louisiana Hot Spiced Okra	4	20
68	Scottish Longbreads	6	15
70	Outback Lager	15	30
74	Longlife Tofu	4	5

(18 row(s) affected)

23. Products that need reordering, continued

Now we need to incorporate these fields — UnitsInStock, UnitsOnOrder, ReorderLevel, Discontinued —into our calculation. We'll define "products that need reordering" with the following:

- UnitsInStock plus UnitsOnOrder are less than or equal to ReorderLevel

- The Discontinued flag is false (0).

Expected Results

```
ProductID   ProductName           UnitsInStock UnitsOnOrder ReorderLevel Discontinued
----------  --------------------  ------------ ------------ ------------ ------------
30          Nord-Ost Matjeshering  10           0            15           0
70          Outback Lager          15           10           30           0

(2 row(s) affected)
```

24. Customer list by region

- A salesperson for Northwind is going on a business trip to visit customers, and would like to see a list of all customers, sorted by region, alphabetically.

- However, he wants the customers with no region (null in the Region field) to be at the end, instead of at the top, where you'd normally find the null values. Within the same region, companies should be sorted by CustomerID.

```
CustomerID CompanyName                          Region
---------- ------------------------------------ --------------
OLDWO      Old World Delicatessen               AK
BOTTM      Bottom-Dollar Markets                BC

LAUGB      Laughing Bacchus Wine Cellars        BC
LETSS      Let's Stop N Shop                    CA
HUNGO      Hungry Owl All-Night Grocers         Co. Cork
GROSR      GROSELLA-Restaurante                 DF
SAVEA      Save-a-lot Markets                   ID
ISLAT      Island Trading                       Isle of Wight
LILAS      LILA-Supermercado                    Lara
THECR      The Cracker Box                      MT
RATTC      Rattlesnake Canyon Grocery           NM

... (skipping some rows)

SANTG      Santé Gourmet                        NULL
SEVES      Seven Seas Imports                   NULL
SIMOB      Simons bistro                        NULL
SPECD      Spécialités du monde                 NULL
SUPRD      Suprêmes délices                     NULL
TOMSP      Toms Spezialitäten                   NULL
TORTU      Tortuga Restaurante                  NULL
VAFFE      Vaffeljernet                         NULL
VICTE      Victuailles en stock                 NULL
VINET      Vins et alcools Chevalier            NULL
WANDK      Die Wandernde Kuh                    NULL
WARTH      Wartian Herkku                       NULL
WILMK      Wilman Kala                          NULL
WOLZA      Wolski  Zajazd                       NULL

(91 row(s) affected)
```

25. High freight charges

- Some of the countries we ship to have very high freight charges. We'd like to investigate some more shipping options for our customers, to be able to offer them lower freight charges. Return the three ship countries with the highest average freight overall, in descending order by average freight.

Expected Results

```
ShipCountry        AverageFreight
---------------    ---------------------
Austria            184.7875
Ireland            145.0126
USA                112.8794

(3 row(s) affected)
```

26. High freight charges - 2015

- We're continuing on the question above on high freight charges. Now, instead of using *all* the orders we have, we only want to see orders from the year 2015.

Expected result

```
ShipCountry      AverageFreight
--------------   ---------------------
Austria          178.3642
Switzerland      117.1775
France           113.991

(3 row(s) affected)
```

27. High freight charges - last year

- We're continuing to work on high freight charges. We now want to get the three ship countries with the highest average freight charges. But instead of filtering for a particular year, we want to use the last 12 months of order data, using as the end date the last OrderDate in Orders.

Expected Results

```
ShipCountry       AverageFreight
---------------   ---------------------
Ireland           200.21
Austria           186.4596
USA               119.3032

(3 row(s) affected)
```

28. Inventory list

- We're doing inventory, and need to show information like the below, for all orders. Sort by OrderID and Product ID.

Expected Results

EmployeeID	LastName	OrderID	ProductName	Quantity
5	Buchanan	10248	Queso Cabrales	12
5	Buchanan	10248	Singaporean Hokkien Fried Mee	10
5	Buchanan	10248	Mozzarella di Giovanni	5
6	Suyama	10249	Tofu	9
6	Suyama	10249	Manjimup Dried Apples	40
3	Leverling	10251	Gustaf's Knäckebröd	6
3	Leverling	10251	Ravioli Angelo	15
3	Leverling	10251	Louisiana Fiery Hot Pepper Sauce	20
4	Peacock	10250	Jack's New England Clam Chowder	10
4	Peacock	10250	Manjimup Dried Apples	35
4	Peacock	10250	Louisiana Fiery Hot Pepper Sauce	15
4	Peacock	10252	Sir Rodney's Marmalade	40
4	Peacock	10252	Geitost	25
4	Peacock	10252	Camembert Pierrot	40
3	Leverling	10253	Gorgonzola Telino	20
3	Leverling	10253	Chartreuse verte	42

...
(total 2155 rows)

29. Customers with no orders

- There are some customers who have never actually placed an order. Show these customers.

Expected Results

```
Customers_CustomerID Orders_CustomerID
-------------------- -----------------
FISSA                NULL
PARIS                NULL

(2 row(s) affected)
```

30. Customers with no orders for EmployeeID 4

- One employee (Margaret Peacock, EmployeeID 4) has placed the most orders. However, there are some customers who've never placed an order with her. Show only those customers who have never placed an order with her.

CustomerID	CustomerID
SEVES	NULL
THEBI	NULL
LAZYK	NULL
GROSR	NULL
PARIS	NULL
FISSA	NULL
SPECD	NULL
LAUGB	NULL
PRINI	NULL
VINET	NULL
FRANR	NULL
CONSH	NULL
NORTS	NULL
PERIC	NULL
DUMON	NULL
SANTG	NULL

(16 row(s) affected)