

## Homework 1

### Questions for Assignment:

Question 1 (10 points). Select and show the product name, unit, and price of any product which has a price greater than or equal to 25. Order your result by product price, in descending order.

Question 2 (10 points). Display the order ID, customer name, shipper name, and employee's first and last name of all the orders. Make sure that

1. The columns to display employee's first and last names are EmployeeFirstName and EmployeeLastName.
2. Order the results by order ID, in ascending order.

Question 3 (10 points). Following the previous question, display the order ID, customer name, shipper name, and employee's first and last name of orders which are placed by the U.S. customers (the value of the country column is "USA") and the corresponding shipper is "Speedy Express."

Question 4 (10 points). Display the category name, the number and the average price of products in each category. Sort the result in descending order by the count, and then in ascending order by the average price.

Question 5 (10 points). Display the information of customers who have never placed an order.

Question 6 (10 points). Show the customer name and the total spend of customers who have at least ordered once. Sort your result by the amount of the total spend, in descending order.

Question 7 (20 points). Which products are delivered by the most commonly used shipping service? Display the product names.

Question 8 (20 points). Write a query to find all the orders whose total value is greater than the average of the overall order total values.

### Answers to Questions:

**Question 1:****Code:**

```
SELECT ProductName, Unit, Price
FROM products
WHERE price >= 25
ORDER BY price DESC;
```

**Output:**

	ProductName	Unit	Price	
►	Côte de Blaye	12 - 75 cl bottles	263.5	
	Thüringer Rostbratwurst	50 bags x 30 sausgs.	123.79	
	Mishi Kobe Niku	18 - 500 g pkgs.	97	
	Sir Rodney's Marmalade	30 gift boxes	81	
	Carnarvon Tigers	16 kg pkg.	62.5	
	Raclette Courdavault	5 kg pkg.	55	
	Manjimup Dried Apples	50 - 300 g pkgs.	53	
	Tarte au sucre	48 pies	49.3	
	Ipoh Coffee	16 - 500 g tins	46	
	Rössle Sauerkraut	25 - 825 g cans	45.6	
	Schoggi Schokolade	100 - 100 g pieces	43.9	
	Vegie-spread	15 - 625 g jars	43.9	
	Northwoods Cranberry...	12 - 12 oz jars	40	
	Alice Mutton	20 - 1 kg tins	39	

**Question 2:****Code:**

```
SELECT orderID, CustomerName, ShipperName, FirstName, LastName
FROM orders o JOIN customers c JOIN employees e JOIN shippers s
ON o.ShipperID = s.ShipperID
AND o.CustomerID = c.CustomerID
AND e.EmployeeID = O.EmployeeID
ORDER BY orderID ASC;
```

**Output:**

	orderID	CustomerName	ShipperName	FirstName	LastName	
▶	10248	Wilman Kala	Federal Shipping	Steven	Buchanan	
	10249	Tradição Hipermercados	Speedy Express	Michael	Suyama	
	10250	Hanari Carnes	United Package	Margaret	Peacock	
	10251	Victuailles en stock	Speedy Express	Janet	Leverling	
	10252	Suprêmes délices	United Package	Margaret	Peacock	
	10253	Hanari Carnes	United Package	Janet	Leverling	
	10254	Chop-suey Chinese	United Package	Steven	Buchanan	
	10255	Richter Supermarkt	Federal Shipping	Anne	Dodsworth	
	10256	Wellington Importadora	United Package	Janet	Leverling	
	10257	HILARIÓN-Abastos	Federal Shipping	Margaret	Peacock	
	10258	Ernst Handel	Speedy Express	Nancy	Davolio	
	10259	Centro comercial Mact...	Federal Shipping	Margaret	Peacock	
	10260	Old World Delicatessen	Speedy Express	Margaret	Peacock	
	10261	Que Delícia	United Package	Margaret	Peacock	

### Question 3:

#### Code:

```

SELECT orderID, CustomerName, ShipperName, FirstName, LastName
FROM orders o JOIN customers c JOIN employees e JOIN shippers s
ON o.ShipperID = s.ShipperID
AND o.CustomerID = c.CustomerID
AND e.EmployeeID = O.EmployeeID
WHERE c.Country = "USA"
AND s.ShipperName = "Speedy Express"
ORDER BY orderID ASC;

```

#### Output:

	orderID	CustomerName	ShipperName	FirstName	LastName	
►	10260	Old World Delicatessen	Speedy Express	Margaret	Peacock	
	10269	White Clover Markets	Speedy Express	Steven	Buchanan	
	10317	Lonesome Pine Restaurant	Speedy Express	Michael	Suyama	
	10324	Save-a-lot Markets	Speedy Express	Anne	Dodsworth	
	10349	Split Rail Beer & Ale	Speedy Express	Robert	King	
	10401	Rattlesnake Canyon Grocery	Speedy Express	Nancy	Davolio	
	10415	Hungry Coyote Import Store	Speedy Express	Janet	Leverling	

#### Question 4:

#### Code:

```
SELECT c.CategoryName, count(p.ProductID), AVG(p.Price)
FROM products as p JOIN categories as c
ON p.CategoryID = c.CategoryID
GROUP BY c.CategoryID
ORDER BY count(p.ProductID) DESC, AVG(p.Price) ASC;
```

#### Output:

	CategoryName	count(p.Productl...	AVG(p.Price)	
►	Confections	13	25.16	
	Seafood	12	20.6825	
	Condiments	12	23.0625	
	Beverages	12	37.979166666666664	
	Dairy Products	10	28.73	
	Grains/Cereals	7	20.25	
	Meat/Poultry	6	54.00666666666667	
	Produce	5	32.37	

**Question 5:****Code:**

```
SELECT c.CustomerID, c.CustomerName FROM  
customers c LEFT JOIN orders o  
USING (CustomerID)  
WHERE o.CustomerID IS NULL;
```

**Output:**

CustomerID	CustomerName
1	Alfreds Futterkiste
6	Blauer See Delikatessen
12	Cactus Comidas para llevar
22	FISSA Fabrica Inter. Salchichas S.A.
26	France restauration
32	Great Lakes Food Market
40	La corne d'abondance
42	Laughing Bacchus Wine Cellars
43	Lazy K Kountry Store
45	Let's Stop N Shop
50	Maison Dewey
53	North/South
57	Paris spécialités
64	Rancho grande

**Question 6:****Code:**

```
SELECT c.CustomerName, Sum(od.Quantity * p.Price) as totalspend  
FROM customers c JOIN products p JOIN order_details od JOIN orders o  
ON c.CustomerID = o.CustomerID  
AND o.OrderID = od.OrderID  
AND p.ProductID = od.ProductID
```

GROUP BY c.CustomerName  
ORDER BY totalspend DESC;

**Output:**

CustomerName	totalspend	
Save-a-lot Markets	22500.06	
Rattlesnake Canyon Grocery	18421.42	
QUICK-Stop	18178.8	
Queen Cozinha	17880.6	
Piccolo und mehr	16040.75	
Hungry Owl All-Night Grocers	15391.02	
Blondel père et fils	15253.7500000000002	
Simons bistro	14619	
Frankenversand	13384.32	
Split Rail Beer & Ale	11114.02	
Old World Delicatessen	10744.5	
Suprêmes délices	8051.3	
Bottom-Dollar Marketse	7963.75	

**Question 7:**

**Code:**

```
SELECT p.ProductName
FROM products p JOIN order_details od JOIN orders o
ON p.ProductID = od.ProductID
AND od.OrderID = o.OrderID
WHERE o.ShipperID IN
(
SELECT T_o.ShipperID
FROM
(
SELECT T.ShipperID, T.Shipper_count
FROM
(
SELECT o.ShipperID ShipperID, COUNT(o.ShipperID) Shipper_count
```

```

FROM products p JOIN order_details od JOIN orders o
ON p.ProductID = od.ProductID
AND od.OrderID = o.OrderID
GROUP BY o.ShipperID
) T
WHERE T.Shipper_count=
(
SELECT MAX(inner_T.Shipper_count)
FROM
(SELECT COUNT(ShipperID) Shipper_count
FROM products JOIN order_details JOIN orders
ON products.ProductID = order_details.ProductID
AND order_details.OrderID = orders.OrderID
GROUP BY orders.ShipperID)inner_T))T_o);

```

### Output:

	ProductName	
►	Jack's New England Clam Chowder	
	Manjimup Dried Apples	
	Louisiana Fiery Hot Pepper Sauce	
	Sir Rodney's Marmalade	
	Geitost	
	Camembert Pierrot	
	Gorgonzola Telino	
	Chartreuse verte	
	Maxilaku	
	Guaraná Fantástica	
	Pâté chinois	
	Longlife Tofu	
	Perth Pasties	
	Original Frankfurter grüne Soße	

### Question 8:

### Code:

```
SELECT o.orderID, Sum(od.Quantity * p.Price) as totalspend
FROM products p JOIN order_details od JOIN orders o
ON o.OrderID = od.OrderID
AND p.ProductID = od.ProductID
GROUP BY o.OrderID
HAVING totalspend >
(
SELECT AVG(T.PRICE)
FROM
(
SELECT SUM(od.Quantity * p.Price) as PRICE
FROM order_details od JOIN products p
ON p.ProductId = od.ProductID
GROUP BY od.OrderID
) T);
```

**Output:**



	orderID	totalspend	
▶	10285	2726.8	
	10294	2359.5	
	10406	2527	
	10413	2656	
	10255	3115.75	
	10258	2529.75	
	10298	3909.5	
	10327	2828.65	
	10335	3181.5	
	10342	2876	
	10393	4135.6	
	10418	2268.5	
	10440	7246.01	
	10309	2202.5	
	10339	4330.4	