Question 2: For this question you'll need to use SQL. Follow this link to access the data set required for the challenge. Please use queries to answer the following questions. Paste your queries along with your final numerical answers below.

a. How many orders were shipped by Speedy Express in total?

In total, Speedy Express shipped 54 orders. This was found using the following query.

```
SELECT COUNT(*)
FROM Orders
JOIN Shippers
        ON Orders.ShipperID = Shippers.ShipperID
WHERE ShipperName = "Speedy Express";
```

b. What is the last name of the employee with the most orders?

The last name of the employee with the most orders is Peacock, and they have 40 orders.

To solve this, I first created a table, dubbed "previous_query" which calculated how many orders each order_id had accumulated. This was useful in seeing how many orders each employee had. Then, I joined the results of this query with the Employees table, so that I was able to see the last name of each employee. Finally, I added the "MAX" clause around the "previous_query.order_amount" column so that my result was the employee who had received the most orders.

```
WITH previous_query AS (
SELECT EmployeeID, COUNT (OrderID) AS 'order_amount'
FROM Orders
GROUP BY EmployeeID
)
SELECT Employees.LastName, MAX(previous_query.order_amount)
FROM previous_query
JOIN Employees
ON previous_query.EmployeeID = Employees.EmployeeID;
```

c. What product was ordered the most by customers in Germany?

The most ordered product by customers in Germany was Boston Crab Meat with a total of 160 orders.

To solve this problem, we need to think about the individual pieces of information that we need from each table. In total, we need to examine four tables:

1. We need to look at the Customers table to determine which country each customer lives in so that we can limit our search to just Germany
2. We need to look at the OrderDetails table to find the sum of the quantity of each product bough
3. We need to look at the Order table so that we can link the Customers table to the OrderDetails and the Product
4. We need to look at the Products table to determine the names of each product.

To begin solving this problem, I started off by creating a table which showed me the name of each product and the total quantity that it had been purchased, irregardless of which Country it was going to. To create this table, I wrote our this query:

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity) AS "Total"
From OrderDetails
JOIN Products
        ON OrderDetails.ProductID = Products.ProductID
GROUP BY Products.ProductName;
```

Now that I had a table which showed the total quantity that each product had been purchased, I needed to limit the table so that it only took into account customers from Germany. Unfortunately, there was no matching column between Customers and OrderDetails or Customers and Products. To remedy this, I had to include a table that had links to Customers and OrderDetails. By going through the tables, I saw that the Orders table had a link to the Customers table (they both had a CustomerID column) and it had a link to the OrderDetails table (they both had an OrderID column). I then joined the Orders table to my query, and then joined the Customers table to my query. Now that my query had access to the Customer information, I could specify which country I wanted my customers to be from. This is the following query:

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity) AS "Total"
From OrderDetails
JOIN Products
        ON OrderDetails.ProductID = Products.ProductID
JOIN Orders
        ON OrderDetails.OrderID = Orders.OrderID
JOIN Customers
        ON Orders.CustomerID = Customers.CustomerID
WHERE Customers.Country = "Germany"
GROUP BY Products.ProductName;
```

Now I had a table which demonstrated the total purchased quantity of each product with the limit that customers were only from Germany.

Finally, I had to reorganize the table so that it only showed me the Product Name that had the maximum quantity purchased. To do this, I simply organized the table in descending order and then limited the table so that it only showed me the top, and therefore maximum, result. This is the following, and final query.

```
SELECT Products.ProductName, SUM(OrderDetails.Quantity) AS "Total"
From OrderDetails
JOIN Products
        ON OrderDetails.ProductID = Products.ProductID
JOIN Orders
        ON OrderDetails.OrderID = Orders.OrderID
JOIN Customers
        ON Orders.CustomerID = Customers.CustomerID
WHERE Customers.Country = "Germany"
GROUP BY Products.ProductName
ORDER BY Total DESC
Limit 1;
```

Therefore, the most ordered product by customers in Germany was Boston Crab Meat with a total of 160 orders.