

Databases - Lab Sheet 5

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Products

How many products does the company sell?

```
SELECT COUNT (*)  
FROM products;  
110
```

Product Lines

What SQL command lists all the product lines?

```
SELECT productLine
FROM   productlines;
+-----+
| productLine |
+-----+
| Classic Cars |
| Motorcycles  |
| Planes       |
| Ships        |
| Trains       |
| Trucks and Buses |
| Vintage Cars |
+-----+
```

Products by category

What SQL command lists the number of products in each category? (category = product line)

```
SELECT productLine, COUNT(*)  
FROM products GROUP BY productLine;
```

```
+-----+-----+  
| productLine      | COUNT(*) |  
+-----+-----+  
| Classic Cars     |         38 |  
| Motorcycles      |         13 |  
...  
...  
...
```

Customers of 1323

What SQL command lists the names of the customers with employee 1323 as their sales rep?

```
SELECT customerName
FROM   customers
WHERE  salesRepEmployeeNumber = 1323;
```

```
+-----+
| customername |
+-----+
| Land of Toys Inc. |
| Gift Depot Inc. |
..
```

Employees not in sales

What SQL command lists the full names of the employees who are not sales reps for any customer?

```
SELECT CONCAT(firstname, ' ', lastname)
FROM   employees
WHERE  employeeNumber NOT IN (SELECT salesRepEmployeeNumber
                              FROM   customers
                              WHERE  salesRepEmployeeNumber IS NOT NULL);
```

```
+-----+
| CONCAT(firstName, ' ', lastName) |
+-----+
| Diane Murphy                    |
| Mary Patterson                  |
...

```

Supervisors

What SQL command makes a list of the number of people each supervisor supervises?

```
SELECT E1.employeeNumber, COUNT(*)  
FROM Employees E1, Employees E2  
WHERE E1.employeeNumber = E2.reportsTo  
GROUP BY E1.employeeNumber;
```

```
+-----+-----+  
| employeeNumber | COUNT(*) |  
+-----+-----+  
|           1002 |         2 |  
|           1056 |         4 |  
...  
+-----+-----+
```

```

SELECT C.salesRepEmployeeNumber      AS rep,
       SUM(priceEach * quantityOrdered) AS value
FROM   customers C,
       orders O,
       orderdetails D
WHERE  C.customerNumber = O.customerNumber
       AND O.ordernumber = D.ordernumber
GROUP BY C.salesRepEmployeeNumber;

```

```

+-----+-----+
| rep   | value      |
+-----+-----+
| 1165  | 1081530.54 |
| 1166  | 347533.03  |
| 1188  | 386663.2   |

```

Average prices

What is the average manufacturer's suggested retail price over all products, broken down according to category?

```
SELECT productLine, AVG(MSRP)
FROM products GROUP BY productLine;
```

productLine	AVG(MSRP)
Classic Cars	118.02105263157895
Motorcycles	97.17846153846153
...	

Ships

Which orders (order numbers) include *ships*?

```
SELECT DISTINCT orderNumber
FROM   orderdetails
       NATURAL JOIN products
WHERE  productLine = 'Ships'
ORDER BY orderNumber;
```

```
+-----+
| orderNumber |
+-----+
|          10105 |
|          10106 |
|          10117 |
...

```

Ships and Trains

Which orders include either *ships* or *trains*?

```
SELECT DISTINCT orderNumber
FROM   orderdetails
       NATURAL JOIN products
WHERE  productLine = 'Ships'
       OR productLine = 'Trains'
ORDER BY orderNumber;
```

```
+-----+
| orderNumber |
+-----+
|      10104 |
|      10105 |
|      10106 |
```

Ships and Trains

Which orders include both *ships* and *trains*?

```
SELECT DISTINCT orderNumber
FROM   orderdetails
      NATURAL JOIN products
WHERE  productLine = 'Ships'
      AND orderNumber IN (SELECT orderNumber
                          FROM   orderdetails
                          NATURAL JOIN products
                          WHERE  productLine = 'Trains')
```

```
ORDER BY orderNumber;
```

```
+-----+
| orderNumber |
+-----+
|         10105 |
|         10117 |
|         10128 |
...

```