Homework 5

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**Single entity**

1. What is the average percentage markup of the MSRP on buyPrice?

SELECT AVG((MSRP - buyPrice) / buyPrice) \* 100

AS AverageMarkup

FROM Products;

1. How many distinct products does ClassicModels sell?

SELECT COUNT(productCode) AS SellProducts

FROM Products;

1. Report the name and city of customers who don't have sales representatives?

SELECT customerName, city

FROM Customers

WHERE salesRepEmployeeNumber IS NULL;

1. What are the names of executives with VP or Manager in their title? Use the CONCAT function to combine the employee's first name and last name into a single field for reporting.

SELECT CONCAT(firstName, ' ', lastName)

AS EmployeeName, JobTitle

FROM Employees

WHERE jobTitle LIKE '%VP%' OR jobTitle LIKE '%Manager%';

1. Which orders have a value greater than $5,000?

SELECT orderNumber, SUM(quantityOrdered \* priceEach)

AS Value

FROM OrderDetails

GROUP BY orderNumber

HAVING SUM(quantityOrdered \* priceEach) > 5000;

**General Queries**

1. Who is at the top of the organization (i.e., reports to no one)?

SELECT CONCAT(firstName, ' ', lastName) AS Top\_of\_organization

FROM Employees

WHERE reportsTo IS NULL;

1. Who reports to William Patterson?

SELECT CONCAT(re.firstName, ' ', re.lastname)

AS Reports\_William\_Patterson

FROM Employees pw LEFT JOIN Employees re ON re.reportsTo = pw.employeeNumber

WHERE pw.lastName = 'Patterson'

AND pw.firstName = 'William';

1. List all the products purchased by Herkku Gifts.

SELECT Products.productCode, Products.productName

FROM Products, Orders, OrderDetails, Customers

WHERE Products.productCode = OrderDetails.productCode

AND Orders.customerNumber = Customers.customerNumber

AND OrderDetails.orderNumber = Orders.orderNumber

AND customerName = 'Herkku Gifts';

1. Compute the commission for each sales representative, assuming the commission is 5% of the cost of an order. Sort by employee last name and first name.

SELECT lastName, firstName, SUM(quantityOrdered \* priceEach) \* 0.05

AS Commission

FROM Employees, Orders, OrderDetails, Customers

WHERE Employees.employeeNumber = Customers.salesRepEmployeeNumber

AND Orders.orderNumber = OrderDetails.orderNumber

AND Customers.customerNumber = Orders.customerNumber

GROUP BY lastName, firstName

ORDER BY SUM(quantityOrdered \* priceEach) \* 0.05 DESC;

1. What is the difference in days between the most recent and oldest order date in the Orders file?

SELECT DATEDIFF(DAY, MIN(orderDate), MAX(orderDate))

AS Between\_Days\_Oldest\_Newest\_Order

FROM Orders;

1. Compute the average time between order date and ship date for each customer ordered by the largest difference.

SELECT customerName, AVG(DATEDIFF(DAY, orderDate, shippedDate))

AS Average\_Time

FROM Customers, Orders

WHERE Customers.customerNumber = Orders.customerNumber

GROUP BY customerName

ORDER BY Average\_Time DESC;

1. What is the value of orders shipped in August 2004? (Hint).

SELECT SUM(quantityOrdered \* priceEach)

AS Total\_August\_2004\_Orders

FROM Orders, OrderDetails

WHERE Orders.orderNumber = OrderDetails.orderNumber

AND DATENAME(MONTH, orderDate) = 'August'

AND DATENAME(YEAR, orderDate) = '2004';

1. List the employees who report to those employees who report to Diane Murphy. Use the CONCAT function to combine the employee's first name and last name into a single field for reporting.

SELECT CONCAT(firstName, ' ', lastName)

AS Employee\_Report\_Diane

FROM Employees

WHERE reportsTo IN (SELECT employeeNumber FROM Employees

WHERE reportsTo = (SELECT employeeNumber FROM Employees

WHERE firstName = 'Diane'

AND lastName = 'Murphy'));

**Correlated Subqueries**

1. Which payments in any month and year are more than twice the average for that month and year (i.e. compare all payments in Oct 2004 with the average payment for Oct 2004)? Order the results by the date of the payment. You will need to use the date functions.

SELECT pay.checkNumber, pay.amount, pay.paymentDate

FROM (SELECT pay.\*, AVG(pay.amount)

OVER (PARTITION BY YEAR(pay.paymentDate), MONTH(pay.paymentDate))

AS AVG\_total\_month\_year FROM Payments pay) pay

WHERE pay.paymentDate BETWEEN '2004-10-01'

AND '2004-10-31'

AND pay.amount > 2 \* AVG\_total\_month\_year;

1. Report for each product, the percentage value of its stock on hand as a percentage of the stock on hand for product line to which it belongs. Order the report by product line and percentage value within product line descending. Show percentages with two decimal places.

SELECT per.productLine, per.productName,

CAST(ROUND(per.quantityInStock \* 100 / line.InStock, 2) AS NUMERIC(38,2))

AS Percentage

FROM Products per

JOIN (SELECT SUM(quantityInStock) AS InStock, productline

FROM Products

GROUP BY productline)

AS line ON per.productLine = line.productLine

ORDER BY per.productLine, Percentage DESC;