

**B00835717**

**Assignment 5**

**Problem 1**

**/\* Query 1\*/**

**/\*Which customers are in a different city than their sales representative?\*/**

```
WITH employeesOffice AS
(
SELECT e.employeeNumber, o.city FROM employees e INNER JOIN offices o ON
e.officeCode = o.officeCode
) SELECT c.customerNumber, c.customerName FROM
customers c INNER JOIN employeesOffice eo ON c.salesRepEmployeeNumber =
eo.employeeNumber WHERE eo.city NOT LIKE c.city;
```

**/\*Query 2\*/**

**/\*Which orders included sales that are below the manufacturer's suggested retail price (MSRP)?\*/**

```
WITH productOrders AS
(
SELECT od.orderNumber,
SUM(p.MSRP * od.quantityOrdered) AS orderMSRP,
SUM(od.PriceEach * od.quantityOrdered) AS orderPriceEach FROM
products p INNER JOIN orderdetails od ON p.productCode = od.productCode
GROUP BY od.orderNumber
) SELECT po.orderNumber FROM productOrders po WHERE
po.orderPriceEach < po.orderMSRP;
```

**/\*Query 3\*/**

**/\*List the top 5 products for 2004 with the highest average mark-up percentage per order. Include the mark-up. The mark-up is the ratio of (sale price – cost) and cost.\*/**

```
WITH orderDesc AS
(
SELECT od.productCode, SUM(od.quantityOrdered) as totalProductQuantity,
SUM(od.priceEach * od.QuantityOrdered) AS totalProductPriceEach
FROM
orderdetails od INNER JOIN orders o ON od.orderNumber = o.orderNumber
WHERE YEAR(o.orderDate) = 2004 GROUP BY od.productCode
),
productDesc AS
```

```
(
SELECT p.productCode, p.productName, od.totalProductPriceEach,
(od.totalProductQuantity * p.buyPrice) AS totalProductBuyPrize
FROM products p INNER JOIN
orderDesc od ON od.productCode = p.productCode
),
markUpTable AS
(
SELECT pd.productCode, pd.productName,
((pd.totalProductPriceEach - pd.totalProductBuyPrize)/pd.totalProductBuyPrize) * 100 AS
totalMarkUpPercentage from productDesc pd
)SELECT * from markUpTable ORDER BY totalMarkUpPercentage DESC LIMIT 5;
```

***/\*Query 4\*/***

***/\*List the top 3 employees with the greatest average diversity  
of products in their orders.\*/***

```
WITH orderDesc AS
(
SELECT od.orderNumber,COUNT(DISTINCT od.productCode) AS noOfProductsInOrder,
o.customerNumber FROM orderdetails od INNER JOIN
orders o ON o.orderNumber = od.orderNumber GROUP BY od.orderNumber
),
customerOrder AS
(
SELECT c.salesRepEmployeeNumber, od.orderNumber, od.noOfProductsInOrder
FROM customers c INNER JOIN orderDesc od ON od.customerNumber
= c.customerNumber
),
employeeProductDiversity AS
(
SELECT e.employeeNumber,e.firstName, e.lastName,
avg(co.noOfProductsInOrder) AS averageDiversity FROM
customerOrder co INNER JOIN employees e ON e.employeeNumber =
co.salesRepEmployeeNumber GROUP BY e.employeeNumber
ORDER BY averageDiversity DESC
)select * from employeeProductDiversity LIMIT 3;
```

***/\*Query 5\*/***

***/\*What is the average time needed to ship orders from each office in 2005, relative to the  
order date?\*/***

```
WITH customerOrders AS
(
SELECT o.orderNumber, c.customerNumber, c.salesRepEmployeeNumber,
DATEDIFF(o.shippedDate,o.orderDate) AS shippingTime FROM orders o
INNER JOIN customers c ON o.customerNumber = c.customerNumber
WHERE YEAR(o.orderDate) = 2005
),
employeesOffices AS
(
SELECT o.officeCode, o.city, e.employeeNumber FROM employees e INNER JOIN offices o
ON e.officeCode = o.officeCode
)
SELECT eo.officeCode, eo.city, avg(co.shippingTime) as averageShipTime2005 FROM
employeesOffices eo INNER JOIN customerOrders co ON
eo.employeeNumber = co.salesRepEmployeeNumber GROUP BY eo.city
ORDER BY eo.officeCode;
```