Chapter 04 In-class Lab Assignment

ISTA-420, T-SQL Fundamentals

In-class Lab — Subqueries

Using the Northwind database

Use subqueries to execute the following queries. Note that it may be possible to use joins and sets to do the same thing.

1. Create a report that shows all orders taken by Janet.
2. Create a report that shows all products by name that are in the Seafood category.
3. Create a report that shows all orders taken by any employee whose last name begins with "A."
4. Create a report that shows the product name and supplier id for all products supplied by Exotic Liquids, Grandma Kelly's Homestead, and Tokyo Traders.
5. Create a report that shows all products supplied from the Pacific Ocean region.
6. Create a report that shows all companies by name that sell products in CategoryID 8.
7. Create a report in two parts that shows the date of the last sale made by each employee, and the date of the first sale made by each employee.
8. What is the product number of our most expensive product? Create a report that shows the employee id and order id of every order for that product.
9. Create a report showing the date of the last sale for every product, ordered by product id.
10. Create a report that shows all companies by name that sell products in the Seafood category.
11. Create a report that lists the ten most expensive products.
12. Create a report that shows the date of the last order by all employees.
13. Create a line item report that contains a line for each product in the order with the following columns: the order id, the product id, the unit price, the quantity sold, the line item price, and the percent of that line item constitutes of the total amount of the order.

Using the TSQLV4 database

Use the book's database, TSQLV4, and do the exercises 1 through 10, beginning on page 150. The solutions are in the book beginning on page 154.

Solutions to the lab queries

Attempt to write the queries before you look at the solutions. Do not look at the solutions before you attempt to write the query.

Northwind queries

```
1  -- 1
2  select orderid, orderdate from orders where employeeid =
3    (select employeeid from employees where firstname = 'Janet');
4
5  -- 2
6  SELECT ProductName
7  FROM Products
8  WHERE CategoryID = (SELECT CategoryID
9     FROM Categories
10    WHERE CategoryName = 'Seafood');
11
12 -- 3
13 select orderid, orderdate from orders where employeeid =
14  (select employeeid from employees where firstname like 'A%');
15
16 -- 4
17 SELECT ProductName, SupplierID
18 FROM Products
19 WHERE SupplierID IN (SELECT SupplierID
20     FROM Suppliers
21     WHERE CompanyName IN
22          ('Exotic Liquids', 'Grandma Kelly''s Homestead', 'Tokyo Traders'));
23
24 -- 5
25 select productname from products where supplierid in
26 (select supplierid from suppliers where country in ('Japan','Singapore','Australia'));
27
28 -- 6
29 SELECT CompanyName
30 FROM Suppliers
31 WHERE SupplierID IN (SELECT SupplierID
32    FROM Products
33    WHERE CategoryID = 8);
34
35 -- 7
36 select o1.employeeid, o1.orderdate from orders o1 where o1.orderdate =
37   (select max(o2.orderdate) from orders o2 where o2.employeeid = o1.employeeid)
38   order by o1.employeeid;
39 select o1.employeeid, o1.orderdate from orders o1 where o1.orderdate =
40   (select min(o2.orderdate) from orders o2 where o2.employeeid = o1.employeeid)
41   order by o1.employeeid;
42
43 -- 8
44 select o.orderid, o.employeeid from orders o where exists
45   (select od.orderid from order_details od
46     where od.productid = 38 and o.orderid = od.orderid);
47
48 -- 9
49 select p.productid, p.productname, lastdate.lastsale from products p,
50    (select od.productid, od.orderid, max(o.orderdate) as lastsale
51       from order_details od join orders o on od.orderid = o.orderid
52           group by od.productid) lastdate
53 where p.productid = lastdate.productid order by p.productid;
54
55 -- 10
56 SELECT CompanyName
57 FROM Suppliers
58 WHERE SupplierID IN (SELECT SupplierID
```

```
59      FROM Products
60      WHERE CategoryID = (SELECT CategoryID
61          FROM Categories
62          WHERE CategoryName = 'Seafood'));
63
64  -- 11
65  select * from
66  (
67      select distinct ProductName as Ten_Most_Expensive_Products,
68             UnitPrice
69      from Products
70      order by UnitPrice desc
71  ) as a
72    limit 10;
73
74  -- 12
75  SELECT OrderID, CustomerID, EmployeeID, OrderDate, RequiredDate
76  FROM Orders AS O1
77  WHERE OrderDate =
78    (SELECT MAX(OrderDate)
79     FROM Orders AS O2
80     WHERE O2.EmployeeID = O1.EmployeeID);
81
82  -- 13
83  select od1.orderid, od1.productid, od1.unitprice, od1.quantity,
84    (od1.unitprice * od1.quantity) as LineTotal,
85    round((od1.unitprice * od1.quantity) /
86    (select sum(od2.unitprice * od2.quantity) from order_details od2
87        where od1.orderid = od2.orderid) * 100, 2) as OrderTotal
88  from order_details od1 order by od1.orderid limit 50;
```