Unit 2 Research Project

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IT526: SQL Query Design

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Unit 2 Research Project

Part 1

An inner join.
Your boss wants to know which orders have shipcity not the same as the customer's city. He wants the report to show the orderid, orderdate, custid, company name, shipcity, and customer's city.

a.   What columns are needed for this query?
        Columns needed: orderid, custid, shipcity, city

b.   What tables are the needed columns in?
        Sales.Orders and Sales.Customers

b.   Are the tables directly connected? If so, what is the join column?
        They are connected. The join column is CustID.

d.   Write the FROM … JOIN … ON … clause of this query.
        FROM Sales.Customers
        JOIN Sales.Orders
        ON Sales.Customers.CustID=Sales.Orders.CustID;

e.   Write the WHERE clause of this query.
        WHERE shipcity <> city;

f.   Write the entire query, including the SELECT clause.
        SELECT Sales.Customers.custid,orderid,companyname,shipcity,city
        FROM Sales.Customers
        JOIN Sales.Orders
        ON Sales.Customers.CustID=Sales.Orders.CustID
        WHERE shipcity <> city;

g.   Run the query. Show the column headers and at least the first row of the result set. How many rows are returned? There are 13 rows returned.

	custid	orderid	companyname	shipcity	city
1	4	10355	Customer HFBZG	Colchester	London
2	4	10383	Customer HFBZG	Colchester	London
3	4	10453	Customer HFBZG	Colchester	London
4	4	10558	Customer HFBZG	Colchester	London
5	4	10707	Customer HFBZG	Colchester	London

-PC\SQLEXPRESS (11.0 RTM) | POD1-PC\POD1 (56) | TSQL2012 | 00:00:00 | 13 rows

h.   What is the same for all rows returned by the query?
        The custid, companyname, shipcity, and city are all the same.

i.   What single-table query would you write to determine whether there are any orders that
        have a different shipcity for that customer? Are there any?

        Yes.

        The Query

        SELECT Sales.Customers.custid,companyname,city
        FROM Sales.Customers
        WHERE custID IN
          (SELECT custID
           FROM Sales.Orders
           WHERE city <> shipcity
          );

        Results
        custid   companyname   city
        ----------- --- ---------------
        4   Customer HFBZG   London

Part 2

Queries.

Label each query with its letter. Copy the query from the SQL Server Management Studio query
window into your assignment Word document. Then copy the results into the Word document.
If the result set returns more than 10 rows, copy the first 5 rows of the result set into your Word
document and then state how many rows were returned.

a.   What cities are common to Suppliers and shipped orders? The result set should have
         column title City.

         SQL Query

         SELECT City
         FROM Production.Suppliers
         INTERSECT
         SELECT shipcity
         FROM Sales.Orders;

Results

	City
1	Sao Paulo
2	Montréal
3	Paris
4	London
5	Berlin

✓ Query executed successfully.

b.   The TSQL company wants to generate a mail merge database to send holiday cards to all customer and supplier contacts. Create a list giving contact name, company name, address, city, region, postal code and country for customers and suppliers.

SQL Query

SELECT contactname, companyname, address, city, region, postalcode, country
FROM Production.Suppliers
UNION
SELECT contactname, companyname, address, city, region, postalcode, country
FROM Sales.Customers;

The Results

	contactname	companyname	address	city	region	postalcode	country
1	Adolphi, Stephan	Supplier SWRXU	2345 Gilbert St.	London	NULL	10023	UK
2	Allen, Michael	Customer NRZBB	Obere Str. 0123	Berlin	NULL	10092	Germany
3	Amdt, Torsten	Customer HFBZG	7890 Hanover Sq.	London	NULL	10046	UK
4	Balázs, Erzsébet	Supplier QOVFD	7890 Sekimai Musashino-shi	Tokyo	NULL	10011	Japan
5	Bansal, Dushyant	Customer QXVLA	2345, place Kléber	Strasbourg	NULL	10089	France

✓ MOTHERSHIP-PC\SQLEXPRESS (1... | Mothership-PC\Mothersh... | SampleDatabaseFromBook | 00:00:00 | 121 rows

c.   In which city is the supplier of product Love Potion Number 9 located? Use a subquery.

SQL Query

SELECT city
FROM Production.Suppliers
WHERE supplierid =
  (SELECT supplierid
FROM production.Products
WHERE productname = 'Love Potion Number 9'
  );

The Results

	city
1	Paris

✅ Query executed successfully.

d.   List the empid, last and first names, and title of employees who made sales in May 2008.
      Use a join query. List each employee only once.

SQL QUERY

SELECT DISTINCT e.empid,lastname,firstname,title
FROM HR.Employees e
JOIN Sales.Orders s ON e.empid = s.empid
WHERE
shippeddate IS NOT NULL
AND MONTH(orderdate) = 5
AND YEAR(orderdate) = 2008;

The Results

	empid	lastname	firstname	title
1	1	Davis	Sara	CEO
2	7	King	Russell	Sales Representative

✅ Query executed successfully.

e.   List the empid, last and first names, and title of employees who made sales in May 2008.
      Use a subquery.

SQL Query

SELECT e.empid,lastname,firstname,title
FROM HR.Employees e
WHERE empid IN
 (SELECT empid
  FROM Sales.Orders
  WHERE shippeddate IS NOT NULL
  AND MONTH(orderdate) = 5
  AND YEAR(orderdate) = 2008
  );

Results

	empid	lastname	firstname	title
1	1	Davis	Sara	CEO
2	7	King	Russell	Sales Representative

✅ Query executed successfully.

f.   List empid, last and first names, orderid, orderdate, custid, and companyname for orders placed in May 2008. Use a join query.

SQL Query

SELECT e.empid,lastname,firstname,orderid,orderdate,o.custid,companyname
FROM HR.Employees e
JOIN Sales.Orders o ON o.empid = e.empid
JOIN Sales.Customers sc ON sc.custid = o.custid
WHERE
MONTH(orderdate) = 5
AND YEAR(orderdate) = 2008;

The Results
14 rows were returned

	empid	lastname	firstname	orderid	orderdate	custid	companyname
1	1	Davis	Sara	11064	2008-05-01 00:00:00.000	71	Customer LCOUJ
2	8	Cameron	Maria	11065	2008-05-01 00:00:00.000	46	Customer XPNIK
3	7	King	Russell	11066	2008-05-01 00:00:00.000	89	Customer YBQTI
4	1	Davis	Sara	11067	2008-05-04 00:00:00.000	17	Customer FEVNN
5	8	Cameron	Maria	11068	2008-05-04 00:00:00.000	62	Customer WFIZJ
6	1	Davis	Sara	11069	2008-05-04 00:00:00.000	80	Customer VONTK
7	2	Funk	Don	11070	2008-05-05 00:00:00.000	44	Customer OXFRU
8	1	Davis	Sara	11071	2008-05-05 00:00:00.000	46	Customer XPNIK
9	4	Peled	Yael	11072	2008-05-05 00:00:00.000	20	Customer THHDP
10	2	Funk	Don	11073	2008-05-05 00:00:00.000	58	Customer AHXHT

g.   List the productid and productname of products that have never been ordered. Use a subquery.

SQL Query

SELECT productid,productname

```
FROM Production.Products
WHERE productid NOT IN
 (SELECT DISTINCT productid
  FROM Sales.OrderDetails
 );
```

The Results

	productid	productname
1	78	Love Potion Number 9

✅ Query executed successfully.

h.   List the productid and productname of products that have never been ordered. Use an outer join.

SQL Query

```
SELECT p.productid,p.productname
FROM Production.Products p
LEFT OUTER JOIN Sales.OrderDetails o ON p.productid = o.productid
WHERE orderid IS NULL;
```

The Results

	productid	productname
1	78	Love Potion Number 9

✅ Query executed successfully.

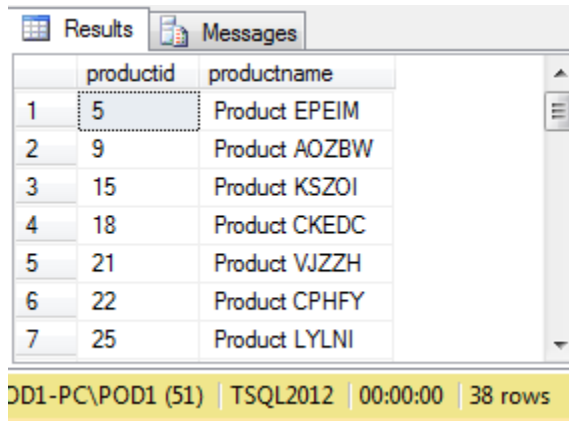i.   List the productid and productname of products that were not ordered in May 2008.

SQL Query

```
SELECT DISTINCT p.productid,p.productname
FROM Sales.Orders o
JOIN Sales.OrderDetails od ON o.orderid = od.orderid
AND o.orderdate >= '20080501' AND o.orderdate < '20080601'
RIGHT JOIN Production.Products p ON p.productid = od.productid
WHERE od.orderid IS NULL;
```

The Results

	productid	productname
1	5	Product EPEIM
2	9	Product AOZBW
3	15	Product KSZOI
4	18	Product CKEDC
5	21	Product VJZZH
6	22	Product CPHFY
7	25	Product LYLNI

OD1-PC\POD1 (51) | TSQL2012 | 00:00:00 | 38 rows

References

Ben-Gan, I., Sarka, D., & Talmage, R. (2013). *Training Kit (Exam 70-461): Querying*

    Microsoft® SQL Server® 2012. Microsoft Press.

W3Schools. (n.d.). SQL INNER JOIN Keyword. Retrieved from http://www.w3schools.com/sql

    /sql_join_inner.asp