Assignment Day2 –SQL: Comprehensive practice

# Answer following questions

1. What is a result set?

Result set is the output of a query.

1. What is the difference between Union and Union All?

Union: only keep unique records

Union All: keeps all records, include duplicates

1. What are the other Set Operators SQL Server has?

Union, union all, Intersect, and except.

1. What is the difference between Union and Join?

Both can be used to combine data from one or more tables into a single result.

Join is used to combine columns from different tables.

Union is used to combine rows.

1. What is the difference between INNER JOIN and FULL JOIN?

Inner join returns only the matching rows between both the tables, non-matching rows are eliminated. Full join returns all rows from both the table, including non-matching rows from both the tables.

1. What is difference between left join and outer join

Left Join returns all the rows from the table on the left and columns of the table on the right is null padded.

Outer join: results all the rows from both tables. When no matching rows exist for the row in the left table, the columns of the right table are null padded. When no matching rows exist for the row in the right table, the columns of the left table are null padded.

1. What is cross join?

Is used to combine each row of the first table with each row of the second table.

1. What is the difference between WHERE clause and HAVING clause?

WHERE is used to filter the records from the table based on the specified condition.

Having clause is used to filter record from the group based on the specified condition.

1. Can there be multiple groups by columns?

Yes

# Write queries for following scenarios

1. How many products can you find in the Production.Product table?
2. Write a query that retrieves the number of products in the Production.Product table that are included in a subcategory. The rows that have NULL in column ProductSubcategoryID are considered to not be a part of any subcategory.
3. How many Products reside in each SubCategory? Write a query to display the results with the following titles.

ProductSubcategoryID CountedProducts

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1. How many products that do not have a product subcategory.
2. Write a query to list the sum of products quantity in the Production.ProductInventory table.
3. Write a query to list the sum of products in the Production.ProductInventory table and LocationID set to 40 and limit the result to include just summarized quantities less than 100.

ProductID TheSum

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1. Write a query to list the sum of products with the shelf information in the Production.ProductInventory table and LocationID set to 40 and limit the result to include just summarized quantities less than 100

Shelf ProductID TheSum

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1. Write the query to list the average quantity for products where column LocationID has the value of 10 from the table Production.ProductInventory table.
2. Write query to see the average quantity of products by shelf from the table Production.ProductInventory

ProductID Shelf TheAvg

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1. Write query to see the average quantity of products by shelf excluding rows that has the value of N/A in the column Shelf from the table Production.ProductInventory

ProductID Shelf TheAvg

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1. List the members (rows) and average list price in the Production.Product table. This should be grouped independently over the Color and the Class column. Exclude the rows where Color or Class are null.

Color Class TheCount AvgPrice

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**Joins:**

1. Write a query that lists the country and province names from person. CountryRegion and person. StateProvince tables. Join them and produce a result set similar to the following.

Country Province

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1. Write a query that lists the country and province names from person. CountryRegion and person. StateProvince tables and list the countries filter them by Germany and Canada. Join them and produce a result set similar to the following.

Country Province

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**Using Northwnd Database: (Use aliases for all the Joins)**

1. List all Products that has been sold at least once in last 25 years.
2. List top 5 locations (Zip Code) where the products sold most.
3. List top 5 locations (Zip Code) where the products sold most in last 25 years.
4. List all city names and number of customers in that city.
5. List city names which have more than 2 customers, and number of customers in that city
6. List the names of customers who placed orders after 1/1/98 with order date.
7. List the names of all customers with most recent order dates
8. Display the names of all customers along with the count of products they bought
9. Display the customer ids who bought more than 100 Products with count of products.
10. List all of the possible ways that suppliers can ship their products. Display the results as below

Supplier Company Name Shipping Company Name

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1. Display the products order each day. Show Order date and Product Name.
2. Displays pairs of employees who have the same job title.
3. Display all the Managers who have more than 2 employees reporting to them.
4. Display the customers and suppliers by city. The results should have the following columns

City

Name

Contact Name,

Type (Customer or Supplier)

28. Have two tables T1 and T2

|  |  |
| --- | --- |
| F1.T1 | F2.T2 |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |

Please write a query to inner join these two tables and write down the result of this query.

SELECT F1, F2

FROM table1.F1 INNER JOIN table2 ON table1.F1=table2.T1

1. Based on above two table, please write a query to left outer join these two tables and write down the result of this query.
2. SELECT F1, F2

FROM table1.F1 LEFT JOIN table2 ON table1.F1=table2.T1

GOOD LUCK.