Assignment Day2 –SQL: Comprehensive practice

# Answer following questions

1. What is a result set?

It is a set of rows from selected table

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

Union removes duplicate from the combining result set, but Union all does not.

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

Intersect, except

1. What is the difference between Union and Join?

Union is to give the combination from the table being selected.

Join is to combine the tables according to their common column’s elements

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

Inner join is match data that both the table have. Full join is fetch all the data from two tables.

1. What is difference between left join and outer join

Left join match data from left table with right table. And for part of left table that right table don’t have, it will automatically fill with null.

Outer join is fetch all the data from two tables.

1. What is cross join?

To get every combinations of columns from two tables.

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

Having is used along with Group by and it’s used in column operations.

Where is used for certain operations, like select, update, delete.

1. Can there be multiple group by columns?

Yes

# Write queries for following scenarios

1. How many products can you find in the Production.Product table?

select count(\*)

from AdventureWorks2017.Production.Product

1. 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.

select sum(1)

from AdventureWorks2017.Production.Product

where ProductSubcategoryID is not null

1. 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.

select sum(ProductSubcategoryID)

from AdventureWorks2017.Production.Product

where ProductSubcategoryID is null

1. Write a query to list the summary of products in the Production.ProductInventory table.

select \*

from AdventureWorks2017.Production.ProductInventory

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

select \*

from AdventureWorks2017.Production.ProductInventory

where LocationID = 40 and Quantity < 100

Write a query to list the summary 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

select shelf, ProductID

from AdventureWorks2017.Production.ProductInventory

where LocationID = 40 and Quantity < 100

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.

select AVG(Quantity)

from AdventureWorks2017.Production.ProductInventory

where LocationID = 10

1. 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 20 years.
4. List all city names and number of customers in that city.
5. List city names which have more than 10 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.

29. Based on above two table, Please write a query to left outer join these two tables and write down the result of this query.

GOOD LUCK.