USE AdventureWorks2022;

-- TASK 1

/\*

Prepare a report (using proper SQL queries) to assess the yearly performance of individual

sales representatives working in AdventureWorks company. The key metrics that we are

focused on are the total sales and number of orders made by employees. The report should

contain data as shown in Table 1.

Sales Person EmployeeID Year SubTotal NumberofOrders

1. Prepare the report without using windowed functions (OVER clause)

2. Prepare the report using windowed functions (OVER clause).

3. Prepare the report by using CTE, where first you aggregate the sales data to

establish yearly performance metrices, and only then attaching the details of the

sales person.

\*/

-- Sales.SalesOrderHeader

-- without windowed

-- distinct is needed since for sincle salesOrderID in SOH i have mulitple entries in salesOrderDetail(each product entry in order)

SELECT MAX(CONCAT(PP.LastName, ', ', PP.FirstName)) AS Sales\_Person,

       SOH.SalesPersonID AS Employee\_ID,

       YEAR(SOH.OrderDate) AS YEAR,

       CONVERT(DECIMAL(10,2),SUM(SOD.LineTotal)) AS Sub\_Total,

       COUNT(DISTINCT SOH.SalesOrderID) AS Number\_Of\_Orders

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN Sales.SalesOrderDetail AS SOD ON SOD.SalesOrderID = SOH.SalesOrderID

INNER JOIN HumanResources.Employee AS HRE ON SOH.SalesPersonID = HRE.BusinessEntityID

INNER JOIN Person.Person AS PP ON HRE.BusinessEntityID = PP.BusinessEntityID

GROUP BY YEAR(SOH.OrderDate), SOH.SalesPersonID;

-- with windowed TODO:

-- this is not fully correct(because of number of orders ) FIX IT

SELECT DISTINCT

    MAX(CONCAT(PP.LastName, ', ', PP.FirstName)) OVER(PARTITION BY SOH.SalesPersonID, YEAR(SOH.OrderDate)) AS Sales\_Person,

    SOH.SalesPersonID AS Employee\_ID,

    YEAR(SOH.OrderDate) AS YEAR,

    SUM(Total\_Sales.total\_sum) OVER(PARTITION BY SOH.SalesPersonID,YEAR(SOH.OrderDate)),

    COUNT(\*) OVER(PARTITION BY SOH.SalesPersonID, YEAR(SOH.OrderDate))

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN HumanResources.Employee AS HRE ON SOH.SalesPersonID = HRE.BusinessEntityID

INNER JOIN Person.Person AS PP ON HRE.BusinessEntityID = PP.BusinessEntityID

INNER JOIN(

    SELECT DISTINCT

    s1.SalesOrderID AS SO\_ID,

    SUM(LineTotal) OVER(PARTITION BY SalesOrderID) AS total\_sum

    FROM Sales.SalesOrderDetail s1

) AS Total\_Sales

ON Total\_Sales.SO\_ID = SOH.SalesOrderID

WHERE SOH.SalesPersonID = 274

-- CTE

WITH YearlySalesMetrics AS (

    SELECT

        SOH.SalesPersonID AS Employee\_ID,

        YEAR(SOH.OrderDate) AS Year,

        SUM(SOD.LineTotal) AS Total\_Sales\_Amount,

        COUNT(DISTINCT SOH.SalesOrderID) AS Number\_Of\_Orders

    FROM

        Sales.SalesOrderHeader AS SOH

    INNER JOIN

        Sales.SalesOrderDetail AS SOD ON SOD.SalesOrderID = SOH.SalesOrderID

    GROUP BY

        YEAR(SOH.OrderDate), SOH.SalesPersonID

)

SELECT

    CONCAT(PP.LastName, ', ', PP.FirstName) AS Sales\_Person,

    YSM.Employee\_ID,

    YSM.Year,

    CONVERT(DECIMAL(10,2), YSM.Total\_Sales\_Amount) AS Total\_Sales\_Amount,

    YSM.Number\_Of\_Orders

FROM

    YearlySalesMetrics AS YSM

INNER JOIN

    HumanResources.Employee AS HRE ON YSM.Employee\_ID = HRE.BusinessEntityID

INNER JOIN

    Person.Person AS PP ON HRE.BusinessEntityID = PP.BusinessEntityID

-- TASK 2 (GROUPING SETS)

SELECT

    SOH.SalesPersonID AS Employee\_ID,

       YEAR(SOH.OrderDate) AS YEAR,

       CONVERT(DECIMAL(10,2),SUM(SOD.LineTotal)) AS Sub\_Total,

       COUNT(DISTINCT SOH.SalesOrderID) AS Number\_Of\_Orders

FROM Sales.SalesOrderHeader AS SOH

INNER JOIN Sales.SalesOrderDetail AS SOD ON SOD.SalesOrderID = SOH.SalesOrderID

INNER JOIN HumanResources.Employee AS HRE ON SOH.SalesPersonID = HRE.BusinessEntityID

GROUP BY GROUPING SETS(YEAR(SOH.OrderDate),SOH.SalesPersonID, ())