**ADVENTUREWORKS DW2017:**

1. **What are the sales, product costs, profit, number of orders & quantity ordered for internet sales by product category and ranked by sales?**

select format(sum(SalesAmount),'c','EN-US') as Sales, Format(sum(ProductStandardCost),'c','EN-US') as Product\_Costs, Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit, sum(OrderQuantity) as Quantity\_Ordered, count(SalesOrderNumber) as Number\_of\_Orders, DimPC.ProductCategoryKey, Rank() over(order by sum(SalesAmount)) as Rank\_Product from dbo.FactInternetSales as FIS

INNER JOIN dbo.DimProduct as DimP on FIS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey;

1. **What are the sales, product costs, profit, number of orders & quantity ordered for reseller sales by product category and ranked by sales?**

select format(sum(SalesAmount),'c','EN-US') as Sales, Format(sum(ProductStandardCost),'c','EN-US') as Product\_Costs, Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit, sum(OrderQuantity) as Quantity\_Ordered, count(SalesOrderNumber) as Number\_of\_Orders, DimPC.ProductCategoryKey, Rank() over(order by sum(SalesAmount)) as Rank\_Product from dbo.FactResellerSales as FRS

INNER JOIN dbo.DimProduct as DimP on FRS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey;

1. **What are the sales, product costs, profit, number of orders & quantity ordered for both internet & reseller sales by product category and ranked by sales?**

select format(sum(SalesAmount),'c','EN-US') as Sales, Format(sum(ProductStandardCost),'c','EN-US') as Product\_Costs, Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit, sum(OrderQuantity) as Quantity\_Ordered, count(SalesOrderNumber) as Number\_of\_Orders, DimPC.ProductCategoryKey, Rank() over(order by sum(SalesAmount)) as Rank\_Product from dbo.FactInternetSales as FIS

INNER JOIN dbo.DimProduct as DimP on FIS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey

Union all

select format(sum(SalesAmount),'c','EN-US') as Sales, Format(sum(ProductStandardCost),'c','EN-US') as Product\_Costs, Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit, sum(OrderQuantity) as Quantity\_Ordered, count(SalesOrderNumber) as Number\_of\_Orders, DimPC.ProductCategoryKey, Rank() over(order by sum(SalesAmount)) as Rank\_Product from dbo.FactResellerSales as FRS

INNER JOIN dbo.DimProduct as DimP on FRS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey;

1. **What are the sales, product costs, profit, number of orders & quantity ordered for product category Accessories broken-down by Product Hierarchy (Category, Subcategory, Model & Product) for both internet & reseller sales?**

select format(sum(SalesAmount),'c','EN-US') as Sales,

Format(sum(ProductStandardCost),'c','EN-US') as Product\_Cost,

Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

sum(OrderQuantity) as Quantity\_Ordered,

count(SalesOrderNumber) as Number\_of\_Orders,

DimP.ProductSubcategoryKey, DimP.ModelName, DimP.ProductKey, DimPC.ProductCategoryKey

from dbo.FactInternetSales as FIS

INNER JOIN dbo.DimProduct as DimP on FIS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey, DimP.ProductSubcategoryKey, DimP.ModelName, DimP.ProductKey

Union all

select format(sum(SalesAmount),'c','EN-US') as Sales,

Format(sum(ProductStandardCost),'c','EN-US') as Product\_Cost,

Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

sum(OrderQuantity) as Quantity\_Ordered,

count(SalesOrderNumber) as Number\_of\_Orders,

DimP.ProductSubcategoryKey, DimP.ModelName, DimP.ProductKey, DimPC.ProductCategoryKey

from dbo.FactResellerSales as FRS

INNER JOIN dbo.DimProduct as DimP on FRS.ProductKey = DimP.ProductKey

INNER JOIN dbo.DimProductSubCategory as DimPSC on DimP.ProductSubcategoryKey = DimPSC.ProductSubcategoryKey

INNER JOIN dbo.DimProductCategory as DimPC on DimPSC.ProductCategoryKey = DimPC.ProductCategoryKey

group by DimPC.ProductCategoryKey, DimP.ProductSubcategoryKey, DimP.ModelName, DimP.ProductKey;

1. **What are the sales, product costs, profit, number of orders & quantity ordered for both internet & reseller sales by country and ranked by sales?**

Select Format(sum(SalesAmount),'c','en-US') as TotalSales,

Format(sum(TotalProductCost),'c','en-US') as Totalcost,

Format(sum(SalesAmount-TotalProductCost),'c','en-US') as Profit,

count(OrderQuantity) as OrderQuantity,

count(SalesOrderNumber) as Number\_of\_order,

DimPC.ProductCategoryKey,

DimST.SalesTerritoryCountry as Country,

RANK() OVER (order by sum(SalesAmount) DESC) as Rank\_of\_Product

from dbo.DimProductCategory as DimPC

inner join dbo.DimProductSubcategory as DimPSC on DimPC.ProductCategoryKey= DimPSC.ProductCategoryKey

inner join dbo.DimProduct as DimP on DimPSC.ProductSubcategoryKey=DimP.ProductSubcategoryKey

inner join dbo.FactResellerSales as FRS on DimP.ProductKey=FRS.ProductKey

inner join dbo.DimReseller as DR on FRS.ResellerKey=DR.ResellerKey

inner join dbo.DimGeography as DimG on DR.GeographyKey=DimG.GeographyKey

inner join dbo.DimSalesTerritory as DimST on DimG.SalesTerritoryKey=DimST.SalesTerritoryKey

group by DimST.SalesTerritoryCountry,DimPC.ProductCategoryKey

union all

Select Format(sum(SalesAmount),'c','en-US') as TotalSales,

Format(sum(TotalProductCost),'c','en-US') as Totalcost,

Format(sum(SalesAmount-TotalProductCost),'c','en-US') as Profit,

count(OrderQuantity) as OrderQuantity,

count(SalesOrderNumber) as Number\_of\_order,

DimPC.ProductCategoryKey,

DimST.SalesTerritoryCountry as Country,

RANK() OVER (order by sum(SalesAmount) DESC) as Rank\_of\_Product

from dbo.DimProductCategory as DimPC

inner join dbo.DimProductSubcategory as DimPSC on DimPC.ProductCategoryKey= DimPSC.ProductCategoryKey

inner join dbo.DimProduct as DimP on DimPSC.ProductSubcategoryKey=DimP.ProductSubcategoryKey

inner join dbo.FactResellerSales as FRS on DimP.ProductKey=FRS.ProductKey

inner join dbo.DimReseller as DR on FRS.ResellerKey=DR.ResellerKey

inner join dbo.DimGeography as DimG on DR.GeographyKey=DimG.GeographyKey

inner join dbo.DimSalesTerritory as DimST on DimG.SalesTerritoryKey=DimST.SalesTerritoryKey

group by DimST.SalesTerritoryCountry,DimPC.ProductCategoryKey;

1. **What are the sales, product costs, profit, number of orders & quantity ordered for France by city and ranked by sales for both internet & reseller sales?**

Select Format(sum(SalesAmount),'c','en-US') as TotalSales,

Format(sum(TotalProductCost),'c','en-US') as Totalcost,

Format(sum(SalesAmount-TotalProductCost),'c','en-US') as Profit,

count(OrderQuantity) as OrderQuantity,

count(SalesOrderNumber) as Number\_of\_order,

DimG.City as City,

RANK() OVER (order by sum(SalesAmount) DESC) as Rank\_of\_Product

from dbo.DimProductCategory as DimPC

inner join dbo.DimProductSubcategory as DimPSC on DimPC.ProductCategoryKey=DimPSC.ProductCategoryKey

inner join dbo.DimProduct as DimP on DimPSC.ProductSubcategoryKey=DimP.ProductSubcategoryKey

inner join dbo.FactResellerSales as FRS on DimP.ProductKey=FRS.ProductKey

inner join dbo.DimReseller as DimR on FRS.ResellerKey=DimR.ResellerKey

inner join dbo.DimGeography as DimG on DimR.GeographyKey=DimG.GeographyKey

inner join dbo.DimSalesTerritory as DimST on DimG.SalesTerritoryKey=DimST.SalesTerritoryKey

where DimST.SalesTerritoryCountry='France'

group by DimG.City

union all

Select Format(sum(SalesAmount),'c','en-US') as TotalSales,

Format(sum(TotalProductCost),'c','en-US') as Totalcost,

Format(sum(SalesAmount-TotalProductCost),'c','en-US') as Profit,

sum(OrderQuantity) as OrderQuantity,

count(SalesOrderNumber) as Number\_of\_order,

DimG.City as City,

RANK() OVER (order by sum(SalesAmount) DESC) as Rank\_of\_Product

from dbo.DimProductCategory as DimPC

inner join dbo.DimProductSubcategory as DimPSC on DimPC.ProductCategoryKey=DimPSC.ProductCategoryKey

inner join dbo.DimProduct as DimP on DimPSC.ProductSubcategoryKey=DimP.ProductSubcategoryKey

inner join dbo.FactInternetSales as FIS on DimP.ProductKey=FIS.ProductKey

inner join dbo.DimSalesTerritory as DimST on FIS.SalesTerritoryKey=DimST.SalesTerritoryKey

inner join dbo.DimGeography as DimG on DimST.SalesTerritoryKey=DimG.SalesTerritoryKey

where DimST.SalesTerritoryCountry='France'

group by DimG.City;

1. **What are the top ten resellers by reseller hierarchy (business type, reseller name) ranked by sales?**

select top(10) DimR.BusinessType as Business\_Type, DimR.ResellerName as Reseller\_name, RANK() OVER (order by sum(FIS.SalesAmount) DESC) as Rank\_of\_Product

from dbo.DimReseller as DimR

inner join dbo.FactResellerSales as FRS on DimR.ResellerKey = FRS.ResellerKey

inner join dbo.FactInternetSales as FIS on FRS.ProductKey = FIS.ProductKey

group by DimR.BusinessType, DimR.ResellerName;

1. **What are the top ten (internet) customers ranked by sales?**

select top(10) DimC.FirstName, DimC.MiddleName, DimC.LastName, Format(sum(FIS.SalesAmount),'c','EN-US') as SalesAmount, RANK() OVER (order by sum(FIS.SalesAmount) DESC) as Ranked\_by\_Sales

from dbo.DimCustomer as DimC

inner join dbo.FactInternetSales as FIS on DimC.CustomerKey = FIS.CustomerKey

group by DimC.FirstName, DimC.MiddleName, DimC.LastName;

1. **What are the sales, product costs, profit, number of orders & quantity ordered by Customer Occupation?**

select format(sum(SalesAmount),'c','EN-US') as Sales,

Format(sum(ProductStandardCost),'c','EN-US') as Product\_Costs,

Format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

sum(OrderQuantity) as Quantity\_Ordered,

count(SalesOrderNumber) as Number\_of\_Orders,

DimC.EnglishOccupation as Customer\_Occupation,

Rank() over(order by sum(SalesAmount)) as Rank\_Product from dbo.FactInternetSales as FIS

inner join dbo.DimCustomer as DimC on FIS.CustomerKey = DimC.CustomerKey

group by DimC.EnglishOccupation;

1. **What are the ranked sales of the sales people (employees)?**

select dbo.DimEmployee.FirstName, dbo.DimEmployee.LastName,

format(sum(dbo.FactResellerSales.SalesAmount),'c','EN-US') as Total\_Sales,

rank() over(order by sum(dbo.FactResellerSales.SalesAmount)desc) as Ranked\_Sales from dbo.FactResellerSales

inner join dbo.DimEmployee on dbo.FactResellerSales.EmployeeKey=dbo.DimEmployee.EmployeeKey

group by dbo.DimEmployee.FirstName, dbo.DimEmployee.LastName;

1. **What are the sales, discount amounts (promotion discounts), profit and promotion % of sales for Reseller Sales by Promotion Hierarchy (Category, Type & Name) – sorted descending by sales.?**

select format(sum(SalesAmount),'c','EN-US') as Sales,

format(sum(DiscountAmount),'c','EN-US') as Discount\_Amount,

format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

(sum((UnitPriceDiscountPct)\*(OrderQuantity))/100) as PromotionPct\_of\_Sales,

DimP.EnglishPromotionType as Promotion\_Type, DimP.EnglishPromotionName as Promotion\_Name, DimP.EnglishPromotionCategory as Promotion\_Category,

Rank() over(order by sum(SalesAmount) desc) as Rank\_Product

from dbo.FactResellerSales as FRS

inner join dbo.DimPromotion as DimP on FRS.PromotionKey = DimP.PromotionKey

group by DimP.EnglishPromotionType, DimP.EnglishPromotionName, DimP.EnglishPromotionCategory

1. **What are the sales, product costs, profit, number of orders & quantity ordered by Sales Territory Hierarchy (Group, Country, region) and ranked by sales for both internet & reseller sales?**

select format(sum(SalesAmount),'c','EN-US') as Sales,

format(sum(DiscountAmount),'c','EN-US') as Discount\_Amount,

format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

sum(OrderQuantity) as Quantity\_Ordered,

count(SalesOrderNumber) as Number\_of\_Orders,

DimST.SalesTerritoryGroup as Territory\_Group, DimST.SalesTerritoryCountry as Teritory\_Country, DimST.SalesTerritoryRegion as Territory\_Region

from dbo.FactResellerSales as FRS

inner join dbo.DimSalesTerritory as DimST on FRS.SalesTerritoryKey=DimST.SalesTerritoryKey

group by DimST.SalesTerritoryGroup, DimST.SalesTerritoryCountry, DimST.SalesTerritoryRegion

Union All

select format(sum(SalesAmount),'c','EN-US') as Sales,

format(sum(DiscountAmount),'c','EN-US') as Discount\_Amount,

format(sum(SalesAmount - ProductStandardCost),'c','EN-US') as Profit,

sum(OrderQuantity) as Quantity\_Ordered,

count(SalesOrderNumber) as Number\_of\_Orders,

DimST.SalesTerritoryGroup as Territory\_Group, DimST.SalesTerritoryCountry as Teritory\_Country, DimST.SalesTerritoryRegion as Territory\_Region

from dbo.FactInternetSales as FIS

inner join dbo.DimSalesTerritory as DimST on FIS.SalesTerritoryKey=DimST.SalesTerritoryKey

group by DimST.SalesTerritoryGroup, DimST.SalesTerritoryCountry, DimST.SalesTerritoryRegion;

1. **What are the sales by year by sales channels (internet, reseller & total)?**

select YEAR(dbo.FactInternetSales.ShipDate) as years\_internet, Format(sum(dbo.FactInternetSales.SalesAmount),'c','en-US') as totalsales\_internet,

YEAR(dbo.FactResellerSales.ShipDate) as years\_reseller, Format(sum(dbo.FactResellerSales.SalesAmount),'c','en-US') as totalsales\_reseller, Format((dbo.FactInternetSales.SalesAmount+dbo.FactResellerSales.SalesAmount),'c','en-US') as total

from dbo.FactInternetSales

inner join dbo.FactResellerSales on dbo.FactResellerSales.ProductKey=dbo.FactInternetSales.ProductKey

group by YEAR(dbo.FactInternetSales.ShipDate),YEAR(dbo.FactResellerSales.ShipDate), Format((dbo.FactInternetSales.SalesAmount+dbo.FactResellerSales.SalesAmount),'c','en-US');

1. **What are the total sales by month (& year)?**

select 'Internet Sales' as type,

format(sum(dbo.FactInternetSales.SalesAmount),'c','EN-US') as total\_sales,

dbo.DimDate.CalendarYear as year,

dbo.DimDate.EnglishMonthName as month

from dbo.FactInternetSales

inner join dbo.DimDate on dbo.FactInternetSales.OrderDateKey=dbo.DimDate.DateKey

group by dbo.DimDate.CalendarYear, dbo.DimDate.EnglishMonthName

union all

select 'Reseller Sales' as type,

format(sum(dbo.FactResellerSales.SalesAmount),'c','EN-US') as total\_sales,

dbo.DimDate.CalendarYear as year,

dbo.DimDate.EnglishMonthName as month

from dbo.FactResellerSales

inner join dbo.DimDate on dbo.FactResellerSales.OrderDateKey=dbo.DimDate.DateKey

group by dbo.DimDate.CalendarYear, dbo.DimDate.EnglishMonthName

order by dbo.DimDate.CalendarYear, dbo.DimDate.EnglishMonthName;

**ADVENTUREWORKS 2017:**

-- 1. What are the sales, product costs, profit, number of orders & quantity ordered for internet sales by product category and ranked by sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as Order\_Quantity,

Count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal-Production.Product.StandardCost),'c','en-US') as Profit,

Production.ProductCategory.Name,

Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderDetail

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID= Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID= Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID=Production.ProductSubcategory.ProductCategoryID

Where Sales.SalesOrderHeader.OnlineOrderFlag=1

group by Production.ProductCategory.Name;

-- 2. What are the sales, product costs, profit, number of orders & quantity ordered for reseller sales by product category and ranked by sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as Order\_Quantity,

Count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal-Production.Product.StandardCost),'c','en-US') as Profit,

Production.ProductCategory.Name,

Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderDetail

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID= Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID= Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID=Production.ProductSubcategory.ProductCategoryID

Where Sales.SalesOrderHeader.OnlineOrderFlag=0

group by Production.ProductCategory.Name;

-- 3. What are the sales, product costs, profit, number of orders & quantity ordered for both internet & reseller sales by product category and ranked by sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as Order\_Quantity,

Count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal-Production.Product.StandardCost),'c','en-US') as Profit,

Production.ProductCategory.Name,

Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderDetail

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID= Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID= Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID=Production.ProductSubcategory.ProductCategoryID

Where Sales.SalesOrderHeader.OnlineOrderFlag=0 or Sales.SalesOrderHeader.OnlineOrderFlag=1

group by Production.ProductCategory.Name;

-- 4. What are the sales, product costs, profit, number of orders & quantity ordered for product category Accessories broken-down by Product Hierarchy (Category, Subcategory, Model & Product) for both internet & reseller sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as OrderQty,

count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal - Production.Product.StandardCost),'c','en-US') as Profit,

Production.ProductCategory.Name as Product\_Category\_Name, Production.ProductSubcategory.Name as Product\_Subcategory\_Name,Production.ProductModel.Name as Product\_ModelName, Production.Product.Name as Product\_Name,

Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderDetail

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID = Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID = Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID = Production.ProductSubcategory.ProductCategoryID

inner join Production.ProductModel on Production.Product.ProductModelID = Production.ProductModel.ProductModelID

where Sales.SalesOrderHeader.OnlineOrderFlag=0 or Sales.SalesOrderHeader.OnlineOrderFlag=1

group by Production.ProductCategory.Name, Production.ProductSubcategory.Name, Production.ProductModel.Name, Production.Product.Name;

-- 5. What are the sales, product costs, profit, number of orders & quantity ordered for both internet & reseller sales by country and ranked by sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as OrderQty,

count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal - Production.Product.StandardCost),'c','en-US') as Profit,

dense\_Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales,

Sales.CountryRegionCurrency.CountryRegionCode as Country

from Sales.SalesOrderDetail

inner join Production.Product on Production.Product.ProductID=Sales.SalesOrderDetail.ProductID

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Sales.SalesTerritory on Sales.SalesTerritory.TerritoryID=Sales.SalesTerritory.TerritoryID

inner join Sales.CountryRegionCurrency on Sales.CountryRegionCurrency.CountryRegionCode=Sales.SalesTerritory.CountryRegionCode

where Sales.SalesOrderHeader.OnlineOrderFlag=0 or Sales.SalesOrderHeader.OnlineOrderFlag=1

group by Sales.CountryRegionCurrency.CountryRegionCode;

-- 6. What are the sales, product costs, profit, number of orders & quantity ordered for France by city and ranked by sales for both internet & reseller sales?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

SUM(Sales.SalesOrderDetail.OrderQty) as Order\_Quantity,

Count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as Profit,

person.Address.City as City,

Dense\_Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderHeader

inner join Sales.SalesOrderDetail on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID= Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID= Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID=Production.ProductSubcategory.ProductCategoryID

inner join sales.SalesTerritory on sales.SalesTerritory.TerritoryID=sales.SalesOrderHeader.TerritoryID

inner join sales.SalesTerritoryHistory on sales.SalesTerritoryHistory.TerritoryID=sales.SalesTerritory.TerritoryID

inner join Person.StateProvince on Person.StateProvince.CountryRegionCode=sales.SalesTerritory.CountryRegionCode

inner join person.CountryRegion on Person.CountryRegion.CountryRegionCode=person.StateProvince.CountryRegionCode

inner join person.Address on person.Address.StateProvinceID=person.StateProvince.StateProvinceID

Where person.CountryRegion.Name='France'

group by person.Address.City;

-- 7. What are the top ten resellers by reseller hierarchy (business type, reseller name) ranked by sales?

select top (10) sales.vStoreWithDemographics.BusinessType, Sales.vStoreWithDemographics.Name,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','EN-US') as Total\_Sales

from sales.SalesOrderHeader

inner join Sales.Store on Sales.SalesOrderHeader.SalesPersonID=Sales.Store.SalesPersonID

inner join Sales.vStoreWithDemographics on Sales.Store.BusinessEntityID = Sales.vStoreWithDemographics.BusinessEntityID

group by Sales.vStoreWithDemographics.BusinessType, Sales.vStoreWithDemographics.Name;

-- 8. What are the top ten (internet) customers ranked by sales?

select person.Person.FirstName as FirstName, person.Person.LastName as LastName,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

Rank() over (order by sum(Sales.SalesOrderHeader.SubTotal) desc) as Rank\_by\_Sales

from Sales.SalesOrderHeader

inner join Sales.CreditCard on Sales.CreditCard.CreditCardID=sales.SalesOrderHeader.CreditCardID

inner join sales.PersonCreditCard on sales.PersonCreditCard.CreditCardID=sales.CreditCard.CreditCardID

inner join person.Person on person.Person.BusinessEntityID=sales.PersonCreditCard.BusinessEntityID

where sales.SalesOrderHeader.OnlineOrderFlag=1

group by person.Person.FirstName,person.Person.LastName;

-- 9. What are the sales, product costs, profit, number of orders & quantity ordered by Customer Occupation?

select format(sum(Production.Product.StandardCost),'c','en-US') as Totalcost,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

sum(Sales.SalesOrderDetail.OrderQty) as Order\_Quantity,

Count(Sales.SalesOrderHeader.SalesOrderID) as Number\_of\_Order,

format(sum(Sales.SalesOrderHeader.SubTotal-Production.Product.StandardCost),'c','en-US') as Profit,

Sales.vPersonDemographics.Occupation as Customer\_Occupation

from Sales.SalesOrderDetail

inner join Production.Product on Production.Product.ProductID=Sales.SalesOrderDetail.ProductID

inner join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Sales.PersonCreditCard on Sales.PersonCreditCard.CreditCardID=Sales.SalesOrderHeader.CreditCardID

inner join Sales.vPersonDemographics on Sales.vpersonDemographics.BusinessEntityID=Sales.PersonCreditCard.BusinessEntityID

group by Sales.vPersonDemographics.Occupation;

-- 10. What are the ranked sales of the sales people (employees)?

select Person.Person.FirstName, Person.Person.LastName,

format(sum(Sales.SalesOrderHeader.SubTotal),'c','EN-US') as Total\_Sales,

dense\_rank() over(order by sum(Sales.SalesOrderHeader.SubTotal)desc) as 'Ranked\_Sales'

from Sales.SalesOrderHeader

inner join Sales.SalesPerson on Sales.SalesOrderHeader.TerritoryID = Sales.SalesPerson.TerritoryID

inner join HumanResources.Employee on Sales.SalesPerson.BusinessEntityID = HumanResources.Employee.BusinessEntityID

inner join Person.Person on HumanResources.Employee.BusinessEntityID=Person.Person.BusinessEntityID

group by Person.Person.FirstName, Person.Person.LastName;

-- 11. What are the sales, discount amounts (promotion discounts), profit and promotion % of sales for Reseller Sales by Promotion Hierarchy (Category, Type & Name) – sorted descending by sales.?

Select Production.ProductCategory.Name as "Catogry",

Production.ProductSubcategory.Name as "Type",

Production.Product.Name as "Name",

format(Sum(Sales.SalesOrderHeader.subtotal), 'c', 'EN-US') As "TotalSales",

(Sales.SalesOrderDetail.UnitPriceDiscount) As"Discount",

format(Sum(Sales.SalesOrderDetail.LineTotal-Production.Product.StandardCost\*Sales.SalesOrderDetail.OrderQty),'c','EN-US') as "Profit" ,

(Sales.SpecialOffer.DiscountPct) as "Discount%" from Sales.SalesOrderDetail

Inner Join Sales.SalesOrderHeader on Sales.SalesOrderHeader.SalesOrderID = Sales.SalesOrderDetail.SalesOrderID

Inner Join Production.Product on Sales.SalesOrderDetail.ProductID = Production.Product .ProductID

Inner join Production.ProductCategory on Production.Product.ProductSubcategoryID = Production.ProductCategory.ProductCategoryID

Inner JOin Production.ProductSubcategory on Production.ProductSubcategory.ProductCategoryID =Production.ProductCategory.ProductCategoryID

Inner Join Sales.SpecialOfferProduct on Sales.SpecialOfferProduct.ProductID= Sales.SalesOrderDetail.ProductID

Inner join Sales.SpecialOffer on Sales.SpecialOffer.SpecialOfferID=Sales.SpecialOfferProduct.SpecialOfferID

where Sales.SalesOrderHeader.OnlineOrderFlag = 0

Group by Production.ProductCategory.Name,Production.ProductSubcategory.Name,Production.Product.Name,Sales.SalesOrderDetail.UnitPriceDiscount,Sales.SpecialOffer.DiscountPct

-- 12. What are the sales, product costs, profit, number of orders & quantity ordered by Sales Territory Hierarchy (Group, Country, region) and ranked by sales for both internet & reseller sales?

select st.[Group], cr.Name Country, cr.CountryRegionCode,sod.LineTotal Sales, p.StandardCost ProductCost,

sod.LineTotal - (p.StandardCost \* sod.OrderQty) Profit,

count(soh.SalesOrderID) NumberOfOrders, SUM(sod.OrderQty) QuantityOfProduct

from Production.Product p

inner join Sales.SalesOrderDetail sod on p.ProductID = sod.ProductID

inner join Sales.SalesOrderHeader soh on sod.SalesOrderID = soh.SalesOrderID

inner join Sales.SalesTerritory st on soh.TerritoryID = st.TerritoryID

inner join Person.StateProvince sp on st.CountryRegionCode = sp.CountryRegionCode

inner join Person.CountryRegion cr on sp.CountryRegionCode = cr.CountryRegionCode

group by st.[Group], cr.Name, cr.CountryRegionCode,sod.LineTotal, p.StandardCost,

sod.LineTotal - (p.StandardCost \* sod.OrderQty)

order by Sales desc;

-- 13. What are the sales by year by sales channels (internet, reseller & total)?

select format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as TotalSales,

YEAR(sales.SalesOrderHeader.OrderDate) as year, sales.SalesOrderHeader.OnlineOrderFlag as Sales\_Channel

from sales.SalesOrderHeader

inner join Sales.SalesOrderDetail on Sales.SalesOrderHeader.SalesOrderID=Sales.SalesOrderDetail.SalesOrderID

inner join Production.Product on Sales.SalesOrderDetail.ProductID= Production.Product.ProductID

inner join Production.ProductSubcategory on Production.Product.ProductSubcategoryID= Production.ProductSubcategory.ProductSubcategoryID

inner join Production.ProductCategory on Production.ProductCategory.ProductCategoryID=Production.ProductSubcategory.ProductCategoryID

group by YEAR(sales.SalesOrderHeader.OrderDate),sales.SalesOrderHeader.OnlineOrderFlag

order by YEAR(sales.SalesOrderHeader.OrderDate),sales.SalesOrderHeader.OnlineOrderFlag;

-- 14. What are the total sales by month (& year)?

select format(sum(Sales.SalesOrderHeader.SubTotal),'c','en-US') as Total\_Sales,

YEAR(sales.SalesOrderHeader.OrderDate) as Year, MONTH(sales.SalesOrderHeader.OrderDate) as Months

from sales.SalesOrderHeader

group by YEAR(sales.SalesOrderHeader.OrderDate),MONTH(sales.SalesOrderHeader.OrderDate)

order by YEAR(sales.SalesOrderHeader.OrderDate),MONTH(sales.SalesOrderHeader.OrderDate);

1. **Please explain (briefly) the differences between SQL queries used to answer the same questions between AdventureWorksDW2017 & AdventureWorks2017**

AdventureWorksDW 2017 queries required many joins in comparison with AdevntureWorks2017, hence the increased storage space

AdventureWorksDW2017 has a denormalized schema as compared to AdventureWorks2017

AdventureWorksDW 2017 queries had more indexes than the AdventureWorks2017