

## ASSIGNMENT 2 (SQL Queries)

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### SQL QUERIES

#### AdventureWorksDW2014:

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

```
select distinct EnglishProductCategoryName as Category,
sum(SalesAmount) as Total_Sales, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.ProductKey) as NoOfOrders, a.ProductKey
from [AdventureWorksDW2014].[dbo].[FactInternetSales] as a
inner join [AdventureWorksDW2014].[dbo].[DimProduct] as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].[DimProductSubcategory] as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].[DimProductCategory] as d
on c.ProductCategoryKey = d.ProductCategoryKey
group by EnglishProductCategoryName, TotalProductCost,
OrderQuantity, (SalesAmount - TotalProductCost), a.ProductKey
order by sum(SalesAmount) desc;
```

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

```
select distinct EnglishProductCategoryName as Category,
sum(SalesAmount) as Total_Sales, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productkey) as TotalOrders
from [AdventureWorksDW2014].[dbo].[FactResellerSales] as a
inner join [AdventureWorksDW2014].[dbo].[DimProduct] as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].[DimProductSubcategory] as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].[DimProductcategory] as d
on c.ProductCategoryKey = d.ProductCategoryKey
group by EnglishProductCategoryName, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost)
order by Total_Sales desc;
```

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 distinct EnglishProductCategoryName as Category,
sum(SalesAmount) as Total_Sales, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productkey) as TotalOrdered
from [AdventureWorksDW2014].[dbo].[FactResellerSales] as a
inner join [AdventureWorksDW2014].[dbo].[DimProduct] as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].[DimProductSubcategory] as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].[DimProductcategory] as d
on c.ProductCategoryKey = d.ProductCategoryKey
group by EnglishProductCategoryName, TotalProductCost,
```

```
OrderQuantity, (SalesAmount - TotalProductCost)
```

```
union
```

```
select distinct EnglishProductCategoryName as Category,  
sum(SalesAmount) as Total_Sales, TotalProductCost, OrderQuantity,  
(SalesAmount - TotalProductCost) as Profit, count(a.productkey) As TotalOrdered  
from [AdventureWorksDW2014].[dbo].FactInternetSales as a  
inner join [AdventureWorksDW2014].[dbo].DimProduct as b  
on a.ProductKey = b.ProductKey  
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c  
on b.ProductSubcategoryKey = c.ProductSubcategoryKey  
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d  
on c.ProductCategoryKey = d.ProductCategoryKey  
group by EnglishProductCategoryName, TotalProductCost, OrderQuantity,  
(SalesAmount - TotalProductCost)  
Order by Total_Sales desc;
```

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 distinct EnglishProductCategoryName as Category,  
EnglishProductSubCategoryName as Sub_category, ModelName,  
EnglishProductName as Product_name, sum(SalesAmount) as Total_Sales,  
TotalProductCost, OrderQuantity, (SalesAmount - TotalProductCost) as Profit,  
count(a.productkey) as TotalOrdered  
from [AdventureWorksDW2014].[dbo].FactInternetSales as a  
inner join [AdventureWorksDW2014].[dbo].DimProduct as b  
on a.ProductKey = b.ProductKey  
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c  
on b.ProductSubcategoryKey = c.ProductSubcategoryKey  
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d  
on c.ProductCategoryKey = d.ProductCategoryKey  
where EnglishProductCategoryName = 'Accessories'  
group by EnglishProductCategoryName, TotalProductCost,  
OrderQuantity, (SalesAmount - TotalProductCost),  
EnglishProductSubCategoryName, ModelName, EnglishProductName
```

```
union
```

```
select distinct EnglishProductCategoryName as Category,  
EnglishProductSubCategoryName as Sub_category, ModelName,  
EnglishProductName as Product_name, sum(SalesAmount) as Total_Sales,  
TotalProductCost, OrderQuantity, (SalesAmount - TotalProductCost) as Profit,  
count(a.productkey) as TotalOrdered  
from [AdventureWorksDW2014].[dbo].FactResellerSales as a  
inner join [AdventureWorksDW2014].[dbo].DimProduct as b  
on a.ProductKey = b.ProductKey  
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c  
on b.ProductSubcategoryKey = c.ProductSubcategoryKey  
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d  
on c.ProductCategoryKey = d.ProductCategoryKey  
where EnglishProductCategoryName = 'Accessories'  
group by EnglishProductCategoryName, TotalProductCost, OrderQuantity,  
(SalesAmount - TotalProductCost),  
EnglishProductSubCategoryName, ModelName, EnglishProductName  
order by Total_Sales desc
```

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 distinct SalesTerritoryCountry as Country, sum(SalesAmount) as Total_Sales,
TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productKey) As TotalOrdered
from [AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d
on c.ProductCategoryKey = d.ProductCategoryKey
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as e
on a.SalesTerritoryKey = e.SalesTerritoryKey
group by SalesTerritoryCountry, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost)
```

union

```
select distinct SalesTerritoryCountry as Country, sum(SalesAmount) as Total_Sales,
TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productKey) As TotalOrdered
from [AdventureWorksDW2014].[dbo].FactInternetSales as a
inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d
on c.ProductCategoryKey = d.ProductCategoryKey
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as e
on a.SalesTerritoryKey = e.SalesTerritoryKey
group by SalesTerritoryCountry, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost)
order by sum(SalesAmount) desc;
```

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 distinct SalesTerritoryCountry as Country, city,
sum(SalesAmount) as Total_Sales,
TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productKey) As TotalOrdered
from [AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d
on c.ProductCategoryKey = d.ProductCategoryKey
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as e
on a.SalesTerritoryKey = e.SalesTerritoryKey
inner join [AdventureWorksDW2014].[dbo].DimGeography as f
on e.SalesTerritoryKey=f.SalesTerritoryKey
where SalesTerritoryCountry='France'
group by SalesTerritoryCountry, City, TotalProductCost, OrderQuantity,
```

```
(SalesAmount - TotalProductCost)
```

```
union
```

```
select distinct SalesTerritoryCountry as Country,
city, sum(SalesAmount) as Total_Sales,
TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productKey) As TotalOrdered
from [AdventureWorksDW2014].[dbo].FactInternetSales as a
inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].[dbo].DimProductcategory as d
on c.ProductCategoryKey = d.ProductCategoryKey
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as e
on a.SalesTerritoryKey = e.SalesTerritoryKey
inner join [AdventureWorksDW2014].[dbo].DimGeography as f
on e.SalesTerritoryKey=f.SalesTerritoryKey
where SalesTerritoryCountry='France'
group by SalesTerritoryCountry, City, TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost)
order by sum(SalesAmount) desc;
```

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

```
Select distinct top 10 (resellername) as Reseller_Name, businessType as Business_Type,
sum(salesamount) as Total_Sales
from [AdventureWorksDW2014].[dbo].FactResellerSales as f inner join
[AdventureWorksDW2014].[dbo].DimReseller as rs on
f.ResellerKey =rs.ResellerKey
group by ResellerName, BusinessType
order by sum(SalesAmount) Desc;
```

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

```
Select distinct top 10 concat(FirstName, ' ', LastName) as Customer_Name, sum(salesamount)
as Total_Sales
from [AdventureWorksDW2014].[dbo].FactInternetSales as f
inner join [AdventureWorksDW2014].[dbo].DimCustomer as c on
f.CustomerKey=c.CustomerKey
group by LastName, FirstName
order by sum(salesamount) desc;
```

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

```
select distinct(EnglishOccupation) as Occupation, sum(SalesAmount) as Sales,
TotalProductCost, OrderQuantity,
(SalesAmount - TotalProductCost) as Profit, count(a.productKey) As TotalOrdered
from [AdventureWorksDW2014].[dbo].DimCustomer as ca
inner join
[AdventureWorksDW2014].[dbo].FactInternetSales as a
on a.CustomerKey=ca.CustomerKey
```

```

inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on a.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].dbo.DimProductCategory as pc
on pc.ProductCategoryKey=c.ProductCategoryKey
group by EnglishOccupation, TotalProductCost, OrderQuantity, (SalesAmount -
TotalProductCost)
order by sum(SalesAmount) desc;

```

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

```

select distinct concat(FirstName,LastName) as Employee_Name, sum(SalesAmount) as Sales
from [AdventureWorksDW2014].[dbo].DimEmployee as e
inner join
[AdventureWorksDW2014].[dbo].FactResellerSales as r
on r.EmployeeKey=e.EmployeeKey
inner join [AdventureWorksDW2014].[dbo].DimProduct as b
on r.ProductKey = b.ProductKey
inner join [AdventureWorksDW2014].[dbo].DimProductSubcategory as c
on b.ProductSubcategoryKey = c.ProductSubcategoryKey
inner join [AdventureWorksDW2014].dbo.DimProductCategory as pc
on pc.ProductCategoryKey=c.ProductCategoryKey
group by LastName,FirstName
order by sum(SalesAmount) desc;

```

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 sum(SalesAmount) as Total_Sales , (DiscountAmount) as Promotion, (SalesAmount-
TotalProductCost) as Profit,
EnglishPromotionName as PromotionName ,(DiscountAmount*100 /sum(SalesAmount)) as
'Promotion%', EnglishPromotionType as PromotionType, EnglishPromotionCategory as
PromotionCategory
from [AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimPromotion as b
on b.PromotionKey = a.PromotionKey
group by DiscountAmount, (SalesAmount-TotalProductCost), EnglishPromotionName,
EnglishPromotionType, EnglishPromotionCategory
order by sum(SalesAmount) desc;

```

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 SalesTerritoryGroup as Groups, SalesTerritoryCountry as Country,
SalesTerritoryRegion as Region, sum(SalesAmount) as Total_Sales, TotalProductCost as
ProductCost, (SalesAmount-TotalProductCost-TaxAmt-Freight) as Profit,
OrderQuantity as Quantity , count(ProductKey) as NumberofOrders
from [AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as b
on b.SalesTerritoryKey = a.SalesTerritoryKey
group by TotalProductCost, (SalesAmount-TotalProductCost-TaxAmt-Freight), OrderQuantity,
ProductKey, SalesTerritoryGroup,
SalesTerritoryCountry, SalesTerritoryRegion
union

```

```

select SalesTerritoryGroup as Groups, SalesTerritoryCountry as Country,
SalesTerritoryRegion as Region, sum(SalesAmount) as Total_Sales, TotalProductCost as
ProductCost, (SalesAmount-TotalProductCost-TaxAmt-Freight) as Profit,
OrderQuantity as Quantity , count(ProductKey) as NumberOfOrders
from [AdventureWorksDW2014].[dbo].FactInternetSales as a
inner join [AdventureWorksDW2014].[dbo].DimSalesTerritory as b
on b.SalesTerritoryKey = a.SalesTerritoryKey
group by TotalProductCost, (SalesAmount-TotalProductCost-TaxAmt-Freight), OrderQuantity,
ProductKey, SalesTerritoryGroup,
SalesTerritoryCountry, SalesTerritoryRegion
order by sum(SalesAmount) desc;

```

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

```

select distinct(b.FiscalYear) as Current_Year, sum(SalesAmount) as Sales
from
[AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimDate as b on
a.OrderDateKey=b.DateKey
group by FiscalYear
with rollup
union
select distinct(b.FiscalYear) as Current_Year, sum(SalesAmount) as Sales
from
[AdventureWorksDW2014].[dbo].FactInternetSales as a
inner join [AdventureWorksDW2014].[dbo].DimDate as b on
a.OrderDateKey=b.DateKey
group by FiscalYear
with rollup
order by sum(SalesAmount) desc;

```

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

```

select sum(SalesAmount) as Total_Sales , EnglishMonthName as CMonth,
FiscalYear as CYear
from [AdventureWorksDW2014].[dbo].FactResellerSales as a
inner join [AdventureWorksDW2014].[dbo].DimDate as b
on a.DateKey = b.DateKey
group by EnglishMonthName, FiscalYear
order by FiscalYear, EnglishMonthName asc;

```

#### AdventureWorks2014:

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

```

select distinct f.Name as Category, sum(soh.totaldue) as Total_Sales, sod.unitprice,
sod.orderqty as Qty, sum(sod.linnetotal) - sum(d.standardcost*sod.OrderQty) as Profit
from Sales.SalesOrderDetail as sod
inner join Sales.SalesOrderHeader as soh
on sod.SalesOrderID = soh.salesorderid
inner join sales.SpecialOfferProduct as c
on sod.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f

```

```

on e.ProductCategoryID = f.ProductCategoryID
where soh.OnlineOrderFlag = '1'
group by f.Name, sod.unitprice, sod.orderqty
order by sum(soh.TotalDue) desc;

```

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

```

select distinct f.Name as Category, sum(soh.totaldue) as Sales, sod.unitprice,
sod.orderqty as Qty, sum(sod.linetotal) - sum(d.standardcost*sod.OrderQty) as Profit
from Sales.SalesOrderDetail as sod
inner join Sales.SalesOrderHeader as soh
on sod.SalesOrderID = soh.salesorderid
inner join sales.SpecialOfferProduct as c
on sod.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
where soh.OnlineOrderFlag = '0'
group by f.Name, sod.unitprice, sod.orderqty
order by sum(soh.TotalDue) desc;

```

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 distinct f.Name as Category, sum(b.totaldue) as Sales, sod.unitprice, sod.orderqty
as Qty,
sum(sod.linetotal) - sum(d.standardcost*sod.OrderQty) as Profit
from Sales.SalesOrderDetail as sod
inner join Sales.SalesOrderHeader as b
on sod.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on sod.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
where b.OnlineOrderFlag = '1'
group by f.Name, sod.unitprice, sod.orderqty

```

union

```

select distinct f.Name as Category, sum(b.totaldue) as Sales, sod.unitprice, sod.orderqty
as Qty,
sum(sod.linetotal) - sum(d.standardcost*sod.OrderQty) as Profit
from Sales.SalesOrderDetail as sod
inner join Sales.SalesOrderHeader as b
on sod.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on sod.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e

```



```

on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
where b.OnlineOrderFlag = '0'
group by f.Name, sod.unitprice, sod.orderqty
order by sum(b.TotalDue) desc;

```

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 distinct f.Name as Category, e.Name as Sub_Category, d.Name as Product_name,
g.Name as Model , sum(b.totaldue) as Sales, a.unitprice, a.orderqty as Qty
, sum(a.linnetotal) - sum(d.standardcost*a.OrderQty) as Profit
from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Production.ProductModel as g
on d.ProductModelID = g.ProductModelID
where b.OnlineOrderFlag = '1'
group by f.Name, e.Name, d.Name , g.Name, a.unitprice, a.orderqty

union

```

```

select distinct f.Name as Category, e.Name as Sub_Category, d.Name as Product_name,
g.Name as Model , sum(b.totaldue) as Sales, a.unitprice, a.orderqty as Qty
, sum(a.linnetotal) - sum(d.standardcost*a.OrderQty) as Profit
from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Production.ProductModel as g
on d.ProductModelID = g.ProductModelID
where b.OnlineOrderFlag = '0'
group by f.Name, e.Name, d.Name , g.Name, a.unitprice, a.orderqty
order by Sales desc;

```

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 distinct h.Name as Country, sum(b.totaldue) as Sales, a.unitprice, a.orderqty as Qty
, sum(a.linnetotal) - sum(d.standardcost*a.OrderQty) as Profit

```



```

from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Sales.SalesTerritory as g
on b.TerritoryID = g.TerritoryID
inner join Person.CountryRegion as h
on g.CountryRegionCode = h.CountryRegionCode
where b.OnlineOrderFlag = '1'
group by h.Name, a.unitprice, a.orderqty

union

select distinct h.Name as Country, sum(b.totaldue) as Sales, a.unitprice, a.orderqty as
Qty
,sum(a.linnetotal) - sum(d.standardcost*a.OrderQty) as Profit
from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Sales.SalesTerritory as g
on b.TerritoryID = g.TerritoryID
inner join Person.CountryRegion as h
on g.CountryRegionCode = h.CountryRegionCode
where b.OnlineOrderFlag = '1'
group by h.Name, a.unitprice, a.orderqty
order by sum(b.TotalDue) desc;

```

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 distinct h.Name as Country,city, sum(b.totaldue) as Sales, a.unitprice, a.orderqty
as Qty
,sum(a.linnetotal) - sum(d.standardcost*a.OrderQty) as Profit
from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID

```

```

inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Sales.SalesTerritory as g
on b.TerritoryID = g.TerritoryID
inner join Person.CountryRegion as h
on g.CountryRegionCode = h.CountryRegionCode
inner join Person.StateProvince as i
on i.CountryRegionCode=h.CountryRegionCode
inner join Person.Address j
on j.StateProvinceID=i.StateProvinceID
where b.OnlineOrderFlag = '1' AND h.Name='France'
group by h.Name, a.unitprice, a.orderqty,city

union

select distinct h.Name as Country, city,sum(b.totaldue) as Sales, a.unitprice, a.orderqty
as Qty
,sum(a.linetotal) - sum(d.standardcost*a.OrderQty) as Profit
from Sales.SalesOrderDetail as a
inner join Sales.SalesOrderHeader as b
on a.SalesOrderID = b.salesorderid
inner join sales.SpecialOfferProduct as c
on a.productid = c.ProductID
inner join Production.Product as d
on c.ProductID = d.ProductID
inner join Production.ProductSubcategory as e
on d.ProductSubcategoryID = e.ProductSubcategoryID
inner join Production.ProductCategory as f
on e.ProductCategoryID = f.ProductCategoryID
inner join Sales.SalesTerritory as g
on b.TerritoryID = g.TerritoryID
inner join Person.CountryRegion as h
on g.CountryRegionCode = h.CountryRegionCode
inner join Person.StateProvince as i
on i.CountryRegionCode=h.CountryRegionCode
inner join Person.Address j
on j.StateProvinceID=i.StateProvinceID
where b.OnlineOrderFlag = '0' AND h.Name='France'
group by h.Name, a.unitprice, a.orderqty,city
order by Sales;

```

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

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

```

SELECT TOP (10) sum(totaldue) As Total_Sales,c.customerid as Customer_id
from Sales.SalesOrderHeader a
Inner join Sales.Customer c
on c.CustomerID=a.CustomerID
group by c.CustomerID
order by Total_Sales desc;

```

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

```

select customertype.Name as Occupation, sum(a.TotalDue) as Total_Sales,
sum(p.StandardCost) as ProductCost,
sum(a.TotalDue) - sum(p.standardcost*s.OrderQty) as Profit,

```

```

count((a.SalesOrderNumber)) as TotalNumberOfOrders,
sum(s.OrderQty) as TotalOrderQuantity
from Sales.SalesOrderHeader a
inner join Sales.Customer c on a.CustomerID=c.CustomerID
inner join Sales.Store st on st.BusinessEntityID=c.StoreID
inner join Person.BusinessEntity be on be.BusinessEntityID=c.PersonID
inner join Person.BusinessEntityContact bec on bec.PersonID=be.BusinessEntityID
inner join Person.ContactType customertype on
customertype.ContactTypeID=bec.ContactTypeID
inner join Sales.SalesOrderDetail as s on a.SalesOrderID = s.SalesOrderID
inner join Production.Product as p on p.ProductID = s.ProductID
group by customertype.ContactTypeID,customertype.Name
order by Total_Sales desc;

```

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

```

SELECT sum(TotalDue) AS sales, SalesPersonID
FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]
group by SalesPersonID
order by sales desc

```

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 d.Category,d.Type,sum(TotalDue) AS Total_Sales, DiscountPct,UnitPriceDiscount
,sum(b.linnetotal) - sum(p.standardcost*b.OrderQty) as Profit
from Sales.SalesOrderHeader a
inner join Sales.SalesOrderDetail b
on a.SalesOrderID=b.SalesOrderID
inner join sales.SpecialOfferProduct c
on b.SpecialOfferID=c.SpecialOfferID
inner join sales.SpecialOffer d
on c.SpecialOfferID = d.SpecialOfferID
inner join Production.Product p
on c.ProductID=p.ProductID
group by d.Category,d.Type,DiscountPct,UnitPriceDiscount
order by Total_Sales desc

```

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 f."Group", f.CountryRegionCode as Country , f.Name as TerritoryName ,
sum(soh.TotalDue) as Total_Sales,
SUM(c.StandardCost) as Total_Cost,
SUM(soh.TotalDue) - SUM(c.StandardCost * sod.OrderQty) as Profit,
SUM(sod.OrderQty) as Total_Order_Quantity,
COUNT(soh.SalesOrderNumber) as Total_Number_of_Orders
from Sales.SalesOrderHeader as soh
inner join Sales.SalesOrderDetail as sod on soh.SalesOrderID = sod.SalesOrderID
inner join Production.Product c on sod.ProductID = c.ProductID
inner join Production.ProductSubcategory d on c.ProductSubcategoryID =
d.ProductSubcategoryID
inner join Production.ProductCategory e on d.ProductCategoryID = e.ProductCategoryID
inner join Sales.SalesTerritory f on soh.TerritoryID = f.TerritoryID
group by f."Group", f.CountryRegionCode, f.Name
order by Total_Sales desc

```

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

```
select YEAR(a.OrderDate) as "Year", a.OnlineOrderFlag, SUM(TotalDue) as
TotalResellerSales
from Sales.SalesOrderHeader as a where a.OnlineOrderFlag = 0
group by YEAR(a.OrderDate), a.OnlineOrderFlag
order by TotalResellerSales desc
```

```
select YEAR(a.OrderDate) as "Year", a.OnlineOrderFlag, SUM(TotalDue) as
TotalInternetSales
from Sales.SalesOrderHeader as a where a.OnlineOrderFlag = 1
group by YEAR(a.OrderDate), a.OnlineOrderFlag
order by TotalInternetSales desc
```

```
select YEAR(a.OrderDate) as "Year", SUM(TotalDue) as TotalSales
from Sales.SalesOrderHeader as a
group by YEAR(a.OrderDate)
order by TotalSales desc
```

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

```
select YEAR(a.OrderDate) as "Total_Sales_Year", MONTH(a.OrderDate) as
"Total_Sales_Month", sum(a.TotalDue) as "Total_Sales"
from Sales.SalesOrderHeader a
group by YEAR(a.OrderDate), MONTH(a.OrderDate)
order by Total_Sales desc
```

#### **AdventureWorksDW2014 and AdventureWorks2014:**

15. Please explain (briefly) the differences between SQL queries used to answer the same questions between AdventureWorksDW2014 & AdventureWorks2014

Answer: The SQL queries that we use to find the output of AdventureWorksDW2014 are smaller than that we use for AdventureWorks2014 since all the foreign keys are present in the Fact table from which we can do the necessary joins.

Although, we have to use various joins to join the tables in AdventureWorks2014 since the database is normalized and to join this database we need to use inner joins which is tedious and results into a bigger query than what we write for the other database.