**ADVENTURE WORKS**

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

-- category and ranked by sales?

SELECT pc.Name,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

RANK() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

FROM Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID

AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON ps.ProductSubcategoryID = p.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID = ps.ProductCategoryID

WHERE sh.OnlineOrderFlag=1

GROUP BY pc.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 pc.Name,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

RANK() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON ps.ProductSubcategoryID = p.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID = ps.ProductCategoryID

WHERE sh.OnlineOrderFlag='0'

GROUP BY pc.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 pc.Name,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

RANK() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON ps.ProductSubcategoryID = p.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID = ps.ProductCategoryID

WHERE sh.OnlineOrderFlag IN (0,1)

GROUP BY pc.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 pc.Name, ps.Name,pm.Name, p.Name,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

ROW\_NUMBER() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON ps.ProductSubcategoryID = p.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID = ps.ProductCategoryID

JOIN Production.ProductModel pm ON pm.ProductModelId = p.ProductModelId

WHERE sh.OnlineOrderFlag IN (0,1) AND pc.Name='Accessories'

GROUP BY pc.Name, ps.Name,pm.Name, p.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 cr.Name,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

RANK() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON ps.ProductSubcategoryID = p.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID = ps.ProductCategoryID

JOIN Sales.SalesTerritory t ON t.TerritoryID=sh.TerritoryID

JOIN Person.CountryRegion cr ON t.CountryRegionCode=cr.CountryRegionCode

WHERE sh.OnlineOrderFlag IN (0,1)

GROUP BY cr.Name;

-- 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 a.City,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered',

ROW\_NUMBER() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Sales.SalesTerritory t ON t.TerritoryID=sh.TerritoryID

JOIN Person.CountryRegion cr ON t.CountryRegionCode=cr.CountryRegionCode

JOIN Person.StateProvince state ON state.CountryRegionCode=cr.CountryRegionCode

JOIN Person.Address a ON a.StateProvinceID= state.StateProvinceID

WHERE sh.OnlineOrderFlag IN (0,1) AND cr.Name='France'

GROUP BY a.City;

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

SELECT top 10 vdemo.BusinessType,

vdemo.Name,

SUM(sod.UnitPrice\*sod.OrderQty) AS 'Sales',

ROW\_NUMBER() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

FROM Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader soh ON soh.SalesOrderID=sod.SalesOrderID

JOIN Sales.Customer c ON c.CustomerId=soh.CustomerId

JOIN Sales.Store s ON s.BusinessEntityID=c.StoreID

JOIN Sales.vStoreWithDemographics vdemo ON vdemo.BusinessEntityID=s.BusinessEntityID

WHERE soh.OnlineOrderFlag=0

AND vdemo.Name=s.Name

GROUP BY vdemo.BusinessType,

vdemo.Name;

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

SELECT top 10 vdemo.LastName,

vdemo.FirstName,

SUM(sod.UnitPrice\*sod.OrderQty) AS 'Sales',

ROW\_NUMBER() OVER(ORDER BY SUM(sod.OrderQty\*sod.UnitPrice) DESC) AS 'Rank'

FROM Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader soh ON soh.SalesOrderID=sod.SalesOrderID

JOIN Sales.Customer c ON c.CustomerId=soh.CustomerId

JOIN Sales.vIndividualCustomer vdemo ON vdemo.BusinessEntityID=c.CustomerId

WHERE soh.OnlineOrderFlag=1

GROUP BY vdemo.FirstName,

vdemo.LastName;

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

SELECT vdemo.Occupation,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sod.SalesOrderID) AS 'Number of Orders',

SUM(sod.OrderQty) AS 'Quantity ordered'

from Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader soh ON soh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON pp.ProductID = sp.ProductID

JOIN Production.Product p ON p.ProductID = sod.ProductID

JOIN Sales.Customer c ON c.CustomerId=soh.CustomerId

JOIN Sales.SalesPerson s ON s.TerritoryID=soh.TerritoryID

JOIN Person.Person per ON per.BusinessEntityID=c.PersonID

JOIN Sales.vPersonDemographics vdemo ON vdemo.BusinessEntityID=per.BusinessEntityID

WHERE vdemo.Occupation IS NOT NULL

GROUP BY vdemo.Occupation;

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

SELECT vdemo.FirstName AS FirstName,

vdemo.LastName AS LastName,

sum(sp.SalesYTD) AS TotalSales,

ROW\_NUMBER() OVER (ORDER BY sum(sp.SalesYTD) DESC) AS Rank\_by\_Sales

FROM Sales.SalesPerson sp

INNER JOIN sales.vSalesPerson vdemo ON vdemo.BusinessEntityID=sp.BusinessEntityID

GROUP BY vdemo.FirstName,

vdemo.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 prodcat.ProductCategoryID as Category,

prodcat.Name as ProductCategoryName,

sum(sod.OrderQty\*sod.UnitPrice)as Sales,

(sum(sod.OrderQty\*sod.UnitPrice)-SUM(prod.StandardCost)) as Profit,

sum(specialop.DiscountPct\*100) as DiscountAmount,

sum(specialop.DiscountPct%((sod.OrderQty\*sod.UnitPrice))) as promotionPercentSales,

ROW\_NUMBER() OVER(ORDER BY (sum(sod.OrderQty\*sod.UnitPrice)) DESC) as RankBySales

FROM Sales.SalesOrderDetail sod

JOIN Sales.SalesOrderHeader soh ON sod.SalesOrderID=soh.SalesOrderID

JOIN Sales.SpecialOfferProduct sop ON sop.ProductID=sod.ProductID AND sop.ProductID=sod.ProductID

JOIN Sales.SpecialOffer specialop ON specialop.SpecialOfferID=sop.SpecialOfferID

JOIN Production.ProductProductPhoto as ppp ON ppp.ProductID=sop.ProductID

JOIN Production.Product as prod ON prod.ProductID = sop.ProductID

JOIN Production.ProductSubcategory AS prodsub ON prodsub.ProductSubcategoryID=prod.ProductSubcategoryID

JOIN Production.ProductCategory as prodcat ON prodcat.ProductCategoryID=prodsub.ProductCategoryID

WHERE soh.OnlineOrderFlag='0'

GROUP BY prodcat.Name,prodcat.ProductCategoryID;

-- 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 t.[Group],cr.Name, cr.CountryRegionCode,

SUM(sod.OrderQty\*sod.UnitPrice) Sales,

SUM(p.StandardCost) ProductCosts,

(SUM(sod.OrderQty\*sod.UnitPrice)-SUM(p.StandardCost)) AS 'Profit',

COUNT(sh.SalesOrderID) AS 'Number of Orders',

COUNT(sod.OrderQty) AS 'Quantity ordered'

from Sales.SalesOrderDetail sod

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON PP.ProductID = sod.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.WorkOrder wo ON wo.ProductID = p.ProductID

JOIN Sales.SalesOrderHeader sh ON sh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SalesTerritory t ON t.TerritoryID=sh.TerritoryID

JOIN Person.CountryRegion cr ON t.CountryRegionCode=cr.CountryRegionCode

WHERE sh.OnlineOrderFlag IN (0,1)

GROUP BY t.[Group],cr.Name, cr.CountryRegionCode;

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

SELECT SUM(sod.OrderQty\*sod.UnitPrice) Sales,

YEAR(soh.OrderDate) AS 'Year',

CASE

WHEN soh.OnlineOrderFlag=0 THEN 'Reseller Sales'

ELSE 'Internet Sales'

END AS 'Channel'

FROM sales.SalesOrderHeader soh

JOIN Sales.SalesOrderDetail sod ON soh.SalesOrderID=sod.SalesOrderID

JOIN Sales.SpecialOfferProduct sp ON sp.SpecialOfferID = sod.SpecialOfferID AND sp.ProductID=sod.ProductID

JOIN Production.ProductProductPhoto pp ON PP.ProductID = sod.ProductID

JOIN Production.Product p ON p.ProductID = pp.ProductID

JOIN Production.ProductSubcategory ps ON p.ProductSubcategoryID=ps.ProductSubcategoryID

JOIN Production.ProductCategory pc ON pc.ProductCategoryID=ps.ProductCategoryID

GROUP BY YEAR(soh.OrderDate), soh.OnlineOrderFlag

ORDER BY YEAR(soh.OrderDate), soh.OnlineOrderFlag;

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

SELECT DATENAME(MONTH, sh.OrderDate) AS SalesMonth,

YEAR(sh.OrderDate) AS SalesYear,

sum(so.OrderQty\*so.UnitPrice) AS TotalSales

FROM Sales.SalesOrderDetail so

JOIN Sales.SalesOrderHeader sh ON so.SalesOrderID = sh.SalesOrderID

where sh.OnlineOrderFlag IN (0,1)

GROUP BY YEAR(sh.OrderDate), DATENAME(MONTH, sh.OrderDate)

order by YEAR(sh.OrderDate) desc;