USE [AdventureWorksDW2014]

--Examine the factInternetSales table.

--5. What is the total of the SalesAmount for all of the rows? When writing your response, format the number appropriately.

SELECT [CurrencyName], FORMAT(SUM([SalesAmount]), 'C', 'en-us') AS TotalInternetSales FROM [dbo].[FactInternetSales]

INNER JOIN [dbo].[DimCurrency] ON [dbo].[FactInternetSales].[CurrencyKey] = [dbo].[DimCurrency].[CurrencyKey]

GROUP BY [dbo].[DimCurrency].[CurrencyName]

SELECT FORMAT(SUM([SalesAmount]), 'C', 'en-us') AS TotalInternetSales FROM [AdventureWorksDW2014].[dbo].[FactInternetSales]

--6. For a given sale in the fact table, how do you find that sale in the operational database? What table or tables hold the information? What columns relate the data warehouse information to the operational database information?

SELECT DISTINCT [AdventureWorksDW2014].[dbo].[FactInternetSales].[SalesOrderNumber] FROM [dbo].[FactInternetSales];

SELECT \* FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]

INNER JOIN [AdventureWorks2014].[Sales].[SalesOrderDetail]

ON [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderID] = [AdventureWorks2014].[Sales].[SalesOrderDetail].[SalesOrderID]

WHERE [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] = 'SO43697'

SELECT \* FROM [AdventureWorksDW2014].[dbo].[FactInternetSales]

WHERE [AdventureWorksDW2014].[dbo].[FactInternetSales].[SalesOrderNumber] = 'SO43697'

--Examine the factResellerSales table

--8. What is the total of the SalesAmount for all of the rows? When writing your response, format the number appropriately.

SELECT [CurrencyName], FORMAT(SUM([SalesAmount]), 'C', 'en-us') AS TotalResellerSales FROM [dbo].[FactResellerSales]

INNER JOIN [dbo].[DimCurrency] ON [dbo].[FactResellerSales].[CurrencyKey] = [dbo].[DimCurrency].[CurrencyKey]

GROUP BY [dbo].[DimCurrency].[CurrencyName]

SELECT FORMAT(SUM([SalesAmount]), 'C', 'en-us') AS TotalResellerSales FROM [AdventureWorksDW2014].[dbo].[FactResellerSales]

--9. For a given sale in the fact table, how do you find that sale in the operational database? What table or tables hold the information? What columns relate the data warehouse information to the operational database information?

SELECT \* FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]

INNER JOIN [AdventureWorks2014].[Sales].[SalesOrderDetail]

ON [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderID] = [AdventureWorks2014].[Sales].[SalesOrderDetail].[SalesOrderID]

WHERE [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] = 'SO43659';

SELECT \* FROM [AdventureWorksDW2014].[dbo].[FactResellerSales]

WHERE [AdventureWorksDW2014].[dbo].[FactResellerSales].[SalesOrderNumber] = 'SO43659'

--10. Are there other sales in the operational database that are not included in the 2 fact tables? Explain your answer.

--10

SELECT DISTINCT [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]

WHERE [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] NOT IN (SELECT DISTINCT [AdventureWorksDW2014].[dbo].[FactInternetSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactInternetSales])

AND [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] NOT IN (SELECT DISTINCT [AdventureWorksDW2014].[dbo].[FactResellerSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactResellerSales])

SELECT \* FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]

WHERE [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] NOT IN (SELECT DISTINCT [AdventureWorksDW2014].[dbo].[FactInternetSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactInternetSales])

AND [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] NOT IN (SELECT DISTINCT [AdventureWorksDW2014].[dbo].[FactResellerSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactResellerSales])

--31465

SELECT DISTINCT [AdventureWorks2014].[Sales].[SalesOrderHeader].[SalesOrderNumber] FROM [AdventureWorks2014].[Sales].[SalesOrderHeader]

--27659

SELECT DISTINCT [dbo].[FactInternetSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactInternetSales]

--3796

SELECT DISTINCT [dbo].[FactResellerSales].[SalesOrderNumber] FROM [AdventureWorksDW2014].[dbo].[FactResellerSales]

--11. What fact table(s) does the customer dimension relate to? Explain your answer with specific column names.

USE [AdventureWorksDW2014]

GO

sp\_help '[AdventureWorksDW2014].[dbo].[DimCustomer]'

GO

--12. How many Internet customers are there in the data warehouse?

SELECT COUNT(\*) AS TotalCustomers FROM [AdventureWorksDW2014].[dbo].[DimCustomer];

SELECT \* FROM [AdventureWorksDW2014].[dbo].[DimCustomer];

USE [AdventureWorks2014]

--13. How many Internet customers are there in the operational database? Explain how you got your answer.

SELECT COUNT(\*) AS TotalCustomers FROM [AdventureWorks2014].[Sales].[Customer]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NULL;

SELECT \* FROM [AdventureWorks2014].[Sales].[Customer]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NULL;

--14. For a given customer in the dimension table, how do you find the customer’s name and email address in the operational database?

SELECT [FirstName], [MiddleName], [LastName], [EmailAddress] FROM [AdventureWorksDW2014].[dbo].[DimCustomer]

FULL OUTER JOIN [AdventureWorks2014].[Sales].[Customer] ON

[AdventureWorks2014].[Sales].[Customer].[AccountNumber] = [AdventureWorksDW2014].[dbo].[DimCustomer].[CustomerAlternateKey]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NULL;

SELECT \* FROM [AdventureWorks2014].[Sales].[Customer]

WHERE [StoreID] IS NULL;

--15. What fact table(s) does the reseller dimension relate to? Explain your answer with specific column names.

USE [AdventureWorksDW2014]

GO

sp\_help '[AdventureWorksDW2014].[dbo].[DimReseller]'

GO

--16. How many resellers are there in the data warehouse?

SELECT COUNT(\*) AS TotalReseller FROM [AdventureWorksDW2014].[dbo].[DimReseller]

SELECT \* FROM [AdventureWorksDW2014].[dbo].[DimReseller]

USE [AdventureWorks2014]

--17. How many resellers are there in the operational database? Explain your answer.

SELECT COUNT(\*) AS TotalReseller FROM [AdventureWorks2014].[Sales].[Customer]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NOT NULL;

SELECT \* FROM [AdventureWorks2014].[Sales].[Customer]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NOT NULL;

--18. For a given reseller in the dimension table, how do you find the customer information in the operational database?

SELECT \* FROM [AdventureWorksDW2014].[dbo].[DimReseller]

INNER JOIN [AdventureWorks2014].[Sales].[Customer] ON

[AdventureWorks2014].[Sales].[Customer].[AccountNumber] = [AdventureWorksDW2014].[dbo].[DimReseller].[ResellerAlternateKey]

WHERE [AdventureWorks2014].[Sales].[Customer].[StoreID] IS NOT NULL;

--19. What fact table(s) does the date dimension relate to? Explain your answer with specific column names.

USE [AdventureWorksDW2014]

GO

sp\_help '[AdventureWorksDW2014].[dbo].[DimDate]'

GO

--21. What fact table(s) does the product dimension relate to? Explain your answer with specific column names.

USE [AdventureWorksDW2014]

GO

sp\_help '[AdventureWorksDW2014].[dbo].[DimProduct]'

GO

--22. For a given product in the operational database, how do you find the product information in the data warehouse? What column(s) relate the data warehouse to the operational database?

SELECT \* FROM [AdventureWorks2014].[Production].[Product]

INNER JOIN [AdventureWorksDW2014].[dbo].[DimProduct]

ON [AdventureWorks2014].[Production].[Product].[ProductNumber] =

[AdventureWorksDW2014].[dbo].[DimProduct].[ProductAlternateKey]

--23. Could there be multiple rows in the dimension table for a given product?

SELECT \* FROM [AdventureWorksDW2014].[dbo].[DimProduct]

ORDER BY [ProductAlternateKey]

-- 606 products

SELECT \* FROM [AdventureWorks2014].[Production].[Product]

ORDER BY [ProductNumber];

-- 504 products

SELECT DISTINCT ProductAlternateKey FROM [AdventureWorksDW2014].[dbo].[DimProduct]

SELECT ProductAlternateKey, COUNT(\*) AS 'Count' FROM [AdventureWorksDW2014].[dbo].[DimProduct]

GROUP BY [ProductAlternateKey]

HAVING COUNT(\*) > 1

SELECT COUNT(\*) FROM [AdventureWorks2014].[Production].[Product]

GROUP BY [ProductNumber];

--24. Give an example of a product in the dimension table that has both Internet and Reseller sales.

SELECT P.[ProductKey] , P.[ProductAlternateKey]

FROM [AdventureWorksDW2014].[dbo].[DimProduct] AS P

WHERE P.[ProductKey] IN (SELECT P.[ProductKey] FROM [dbo].[FactInternetSales] AS T1 WHERE P.[ProductKey] = T1.[ProductKey]) AND P.[ProductKey] IN (SELECT P.[ProductKey] FROM [dbo].[FactResellerSales] AS T2 WHERE P.[ProductKey] = T2.[ProductKey])

--25. Give an example of a product in the dimension table that has no Internet sales.

SELECT P.[ProductKey] , P.[ProductAlternateKey]

FROM [AdventureWorksDW2014].[dbo].[DimProduct] AS P

WHERE P.[ProductKey] NOT IN (SELECT P.[ProductKey] FROM [dbo].[FactInternetSales] AS T1 WHERE P.[ProductKey] = T1.[ProductKey])

-- SELECT P.[ProductKey] , P.[ProductAlternateKey]

-- FROM [AdventureWorksDW2014].[dbo].[DimProduct] AS P

-- WHERE P.[ProductKey] IN (SELECT P.[ProductKey] FROM [dbo].[FactInternetSales] AS T1 WHERE P.[ProductKey] = T1.[ProductKey])

SELECT \* FROM [dbo].[FactInternetSales]

ORDER BY [dbo].[FactInternetSales].SalesOrderNumber