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# Homework 4 SQL
# Sahib Bajwa

# Question 1
SELECT dim_customer.CustomerName, dim_customer.Gender, dim_salesperson.SalesPersonName, dim_salesperson.City FROM fact_productsales
    INNER JOIN dim_salesperson ON fact_productsales.SalesPersonID = dim_salesperson.SalesPersonID
    INNER JOIN dim_customer ON fact_productsales.CustomerID = dim_customer.CustomerID
    INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
    WHERE dim_date.MONTHNAME = 'September' AND dim_date.YEAR = '2015' AND fact_productsales.SalesPrice > 20 AND fact_productsales.Quantity > 8;

# Question 2
SELECT dim_store.StoreName, dim_store.City, dim_product.ProductName FROM fact_productsales
    INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
    INNER JOIN dim_product ON fact_productsales.ProductID = dim_product.ProductKey
    INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
    WHERE fact_productsales.ProductCost < 50 AND dim_store.City = 'Boulder' AND dim_date.MONTHNAME = 'March' AND dim_date.YEAR = '2017';

# Question 3
SELECT dim_salesperson.SalesPersonName FROM fact_productsales
    INNER JOIN dim_salesperson ON fact_productsales.SalesPersonID = dim_salesperson.SalesPersonID
    INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
    WHERE dim_date.YEAR = '2017'
    GROUP BY dim_salesperson.SalesPersonName
    ORDER BY SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) DESC LIMIT 0, 2;

# Question 4
SELECT dim_customer.CustomerName, SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) AS Total_Revenue FROM fact_productsales
    INNER JOIN dim_customer ON fact_productsales.CustomerID = dim_customer.CustomerID
    INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
    WHERE dim_date.YEAR = '2017'
    GROUP BY dim_customer.CustomerName
    ORDER BY Total_Revenue DESC LIMIT 0, 1;

# Question 5
SELECT dim_store.StoreName, SUM(fact_productsales.SalesPrice) as Total_Sales_Price FROM fact_productsales
    INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
    INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
    WHERE dim_date.YEAR > 2010 AND dim_date.YEAR < 2017
    GROUP BY dim_store.StoreName
    ORDER BY dim_store.StoreName ASC;
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41
42      # Question 6
43 •    SELECT dim_store.StoreName, dim_product.ProductName,
44          (SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) - SUM(fact_productsales.ProductCost * fact_productsales.Quantity)) AS Total_Profits
45          FROM fact_productsales
46          INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
47          INNER JOIN dim_product ON fact_productsales.ProductID = dim_product.ProductKey
48          INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
49          WHERE dim_product.ProductName LIKE '%Jasmine Rice%' AND dim_date.YEAR = '2010'
50          GROUP BY dim_store.StoreName;
51
52      # Question 7
53 •    SELECT dim_store.StoreName, dim_date.QUARTER, SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) AS Total_Revenue
54          FROM fact_productsales
55          INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
56          INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
57          WHERE dim_date.YEAR = '2016' AND dim_store.StoreName = 'ValueMart Boulder'
58          GROUP BY dim_date.QUARTER
59          ORDER BY dim_date.QUARTER ASC;
60
61      # Question 8
62 •    SELECT dim_customer.CustomerName, SUM(fact_productsales.SalesPrice) AS Total_Sales_Price
63          FROM fact_productsales
64          INNER JOIN dim_customer ON fact_productsales.CustomerID = dim_customer.CustomerID
65          WHERE dim_customer.CustomerName = 'Melinda Gates' OR dim_customer.CustomerName = 'Harrison Ford'
66          GROUP BY dim_customer.CustomerName;
67
68      # Question 9
69 •    SELECT dim_store.StoreName, fact_productsales.SalesPrice, fact_productsales.Quantity
70          FROM fact_productsales
71          INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
72          INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
73          WHERE dim_date.YEAR = '2017' AND dim_date.MONTHNAME = 'March' AND dim_date.DAYOFMONTH = '12';
74
75      # Question 10
76 •    SELECT dim_salesperson.SalesPersonName, SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) AS Total_Revenue
77          FROM fact_productsales
78          INNER JOIN dim_salesperson ON fact_productsales.SalesPersonID = dim_salesperson.SalesPersonID
79          GROUP BY dim_salesperson.SalesPersonID
80          ORDER BY Total_Revenue DESC LIMIT 0, 1;
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81
82      # Question 11
83    ● SELECT dim_product.ProductName
84          FROM fact_productsales
85          INNER JOIN dim_product ON fact_productsales.ProductID = dim_product.ProductKey
86          GROUP BY dim_product.ProductKey
87          ORDER BY (SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) - SUM(fact_productsales.ProductCost * fact_productsales.Quantity)) DESC LIMIT 0, 3;
88
89      # Question 12
90    ● SELECT dim_date.YEAR, dim_date.MONTHNAME, SUM(fact_productsales.SalesPrice * fact_productsales.Quantity) AS Total_Revenue
91          FROM fact_productsales
92          INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
93          WHERE dim_date.YEAR = '2017' AND (dim_date.MONTHNAME = 'January' OR dim_date.MONTHNAME = 'February' OR dim_date.MONTHNAME = 'March')
94          GROUP BY dim_date.MONTHNAME;
95
96      # Question 13
97    ● SELECT dim_product.ProductName, round(avg(fact_productsales.ProductCost), 2) AS Average_Product_Cost, round(avg(fact_productsales.SalesPrice), 2) AS Average_Sales_Price
98          FROM fact_productsales
99          INNER JOIN dim_product ON fact_productsales.ProductID = dim_product.ProductKey
100         INNER JOIN dim_date ON fact_productsales.SalesDateKey = dim_date.DateKey
101         WHERE dim_date.YEAR = '2017'
102         GROUP BY dim_product.ProductKey;
103
104     # Question 14
105   ● SELECT dim_customer.CustomerName, round(avg(fact_productsales.SalesPrice), 2) AS Average_Sales_Price, round(avg(fact_productsales.Quantity), 2) as Average_Quantity
106         FROM fact_productsales
107         INNER JOIN dim_customer ON fact_productsales.CustomerID = dim_customer.CustomerID
108         WHERE dim_customer.CustomerName = 'Melinda Gates';
109
110     # Question 15
111   ● SELECT dim_store.StoreName, round(max(fact_productsales.SalesPrice), 2) AS Maximum_Sales_Price, round(min(fact_productsales.SalesPrice), 2) AS Minimum_Sales_Price
112         FROM fact_productsales
113         INNER JOIN dim_store ON fact_productsales.StoreID = dim_store.StoreID
114         WHERE dim_store.City = 'Boulder';
115
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