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/*
Project 1: Excelsior Mobile Report
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--REPORT QUESTIONS (WITH VISUALIZATIONS)
--1--
--A
USE el23wq_Excelsior
SELECT CONCAT(FirstName,' ',LastName) AS 'Full Name', LastMonthUsage.Minutes AS
'Minute Usage' ,
            DataInMB AS 'Data Usage', Texts AS 'Text Usage', Total AS 'Total Bill'
FROM Subscriber INNER JOIN Bill
      ON Subscriber.MIN = Bill.MIN
      INNER JOIN LastMonthUsage
      ON Subscriber.MIN = LastMonthUsage.MIN
ORDER BY 'Full Name';

--B
USE el23wq_Excelsior
SELECT Subscriber.City, AVG(LastMonthUsage.Minutes) AS 'Average Minute',
            AVG(DataInMB) AS 'Average Data',
            AVG(Texts) AS 'Average Texts',
            AVG(Bill.Total) AS 'Total Bill'
FROM Subscriber INNER JOIN LastMonthUsage
            ON Subscriber.MIN = LastMonthUsage.MIN
            INNER JOIN Bill
            ON Subscriber.MIN = Bill.MIN
GROUP BY Subscriber.City
ORDER BY AVG(Bill.Total);

--C
USE el23wq_Excelsior
SELECT Subscriber.City, SUM(LastMonthUsage.Minutes) AS 'Sum Minute',
            SUM(DataInMB) AS 'Sum Data',
            SUM(Texts) AS 'Sum Texts',
            SUM(Bill.Total) AS 'Total Bill'
FROM Subscriber INNER JOIN LastMonthUsage
            ON Subscriber.MIN = LastMonthUsage.MIN
            INNER JOIN Bill
            ON Subscriber.MIN = Bill.MIN
GROUP BY Subscriber.City
ORDER BY SUM(Bill.Total) ASC;

--D
USE el23wq_Excelsior
SELECT Subscriber.PlanName, AVG(LastMonthUsage.Minutes) AS 'Average Minute',
            AVG(DataInMB) AS 'Average Data',
            AVG(Texts) AS 'Average Texts',
            AVG(Bill.Total) AS 'Total Bill'
FROM Subscriber INNER JOIN LastMonthUsage
            ON Subscriber.MIN = LastMonthUsage.MIN
            INNER JOIN Bill
            ON Subscriber.MIN = Bill.MIN
GROUP BY Subscriber.PlanName
ORDER BY AVG(Bill.Total) ASC;

--E
USE el23wq_Excelsior
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```sql
SELECT Subscriber.PlanName, SUM(LastMonthUsage.Minutes) AS 'Sum Minute',
             SUM(DataInMB) AS 'Sum Data',
             SUM(Texts) AS 'Sum Texts',
             SUM(Bill.Total) AS 'Total Bill'
FROM Subscriber INNER JOIN LastMonthUsage
             ON Subscriber.MIN = LastMonthUsage.MIN
             INNER JOIN Bill
             ON Subscriber.MIN = Bill.MIN
GROUP BY Subscriber.PlanName
ORDER BY SUM(Bill.Total) ASC;

--The Report Questions (without Visualizations)
--1--
--A
USE el23wq_Excelsior
SELECT TOP 2 City, COUNT(City) AS 'Number Of Customers'
FROM Subscriber
GROUP BY City
ORDER BY COUNT(City) DESC;

--B
USE el23wq_Excelsior
SELECT City, COUNT(City) AS 'Number Of Customers'
FROM Subscriber
GROUP BY City
ORDER BY COUNT(City) ASC;

--C
USE el23wq_Excelsior
SELECT TOP 1 PlanName AS 'Plan Name', COUNT(PlanName) AS 'Number Of Customers'
FROM Subscriber
GROUP BY PlanName
ORDER BY COUNT(PlanName) ASC;

--2--
--A
USE el23wq_Excelsior
SELECT Type, COUNT(Type) AS 'Number Of Phone Type'
FROM Device
GROUP BY Type
ORDER BY COUNT(Type);

--B
USE el23wq_Excelsior
SELECT FirstName AS 'First Name', LastName AS 'Last Name'
FROM Subscriber
WHERE MDN IN
      (SELECT MDN
       FROM DirNums
       WHERE IMEI IN
             (SELECT IMEI
              FROM Device
              WHERE Type = 'Apple'));

--C
USE el23wq_Excelsior
SELECT CONCAT(TRIM(FirstName), ' ' ,(LastName)) AS 'Full Name',
         YearReleased AS 'Year Released'
FROM Device AS DV, DirNums AS DN, Subscriber AS SUB
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WHERE SUB.MDN = DN.MDN
      AND DN.IMEI = DV.IMEI
      AND YearReleased < 2018
GROUP BY CONCAT(TRIM(FirstName), ' ' ,(LastName)), YearReleased
ORDER BY YearReleased DESC;


--3--
--A
USE el23wq_Excelsior
SELECT TOP 3 SUB.City, SUM(LMU.DataInMB) AS 'Data Usage'
FROM Subscriber AS SUB, LastMonthUsage AS LMU
WHERE SUB.MIN = LMU.MIN
GROUP BY SUB.City
ORDER BY SUM(LMU.DataInMB) DESC;


--B
USE el23wq_Excelsior
SELECT SUB.City, SUM(LMU.DataInMB) AS 'Data Usage', Mplan.PlanName
FROM Subscriber AS SUB, MPlan, LastMonthUsage AS LMU
WHERE MPlan.PlanName = SUB.PlanName
      AND SUB.MIN = LMU.MIN
      AND MPlan.Data NOT LIKE 'Unlimited'
GROUP BY SUB.City, MPlan.PlanName
ORDER BY SUM(LMU.DataInMB) DESC;


--4--
--A
USE el23wq_Excelsior
SELECT TOP 1 FirstName, LastName, Total
FROM Subscriber, Bill
WHERE Subscriber.MIN = Bill.MIN
ORDER BY Total DESC;


--B
USE el23wq_Excelsior
SELECT TOP 1 SUB.PlanName, SUM(Bill.Total) AS 'Total Bill'
FROM Subscriber AS SUB, Bill
WHERE SUB.MIN = Bill.MIN
GROUP BY SUB.PlanName
ORDER BY SUM(Bill.Total) DESC;


--5--
--A
USE el23wq_Excelsior
SELECT TOP 1 LEFT(SUB.MDN,3) AS 'Area Code', SUM(LMU.Minutes) AS 'Minute Usage'
FROM Subscriber AS SUB JOIN LastMonthUsage AS LMU
                       ON SUB.MIN = LMU.MIN
GROUP BY LEFT(SUB.MDN,3)
ORDER BY SUM(LMU.Minutes) DESC;


--B
USE el23wq_Excelsior
SELECT City, SUM(Minutes) AS 'Minute Usage'
FROM Subscriber, LastMonthUsage
WHERE Subscriber.MIN = LastMonthUsage.MIN
GROUP BY City
HAVING SUM(Minutes) NOT BETWEEN 200 AND 700
ORDER BY SUM(Minutes) DESC;
```