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/* 1 Provide a meaningful treatment to all values where age is less than 18. */
proc sql;
select * from l.cb
where age <18;
quit;
/* 2 Identity where the repayment is more than the spend then give them a credit of 2% of their surplus */
/* amount in the next month billing. */
proc sql;
SELECT
    Month(Month) AS monthly,SUM(Amount.spend) AS monthly_spend,limits,SUM(Amount.repayment) AS monthly_repayment,monthly.
CASE
    WHEN monthly_repayment> monthly_spend THEN (surplus* 0.02 )
    ELSE 0
END as penalty_amount
FROM l.spend as a
join l.repayment as b on a.Costomer = b.Costomer
GROUP BY surplus
;
quit;

/* -- 3 Monthly spend of each customer */
proc sql;
SELECT costomer, Month(Month) AS monthly, SUM(Amount) AS monthly_spend
FROM l.spend
GROUP BY costomer,Month(Month) ;
quit;

/* -- 4 Monthly repayment of each customer. */
proc sql;
SELECT costomer, Month(Month) AS monthly, SUM(Amount) AS monthly_repayment
FROM l.repayment
GROUP BY costomer, Month(Month);
quit;

/* --***** 5 Highest paying 10 customers. */

proc sql;
SELECT Costomer,Amount
FROM l.repayment
group by Costomer,Amount
order by Amount desc
;
quit;

/* -- 6 People in which segment are spending more money. */
proc sql;
SELECT Segment ,sum(Amount) as spending_money
FROM l.cb join l.spend on spend.costomer = cb.customer
group by Segment
order by spending_money desc;
quit;

/* -- 7 Which age group is spending more money? */
proc sql;
SELECT SUM(Amount) AS total_spending ,

CASE
    WHEN Age < 18 THEN 'Under 18'
    WHEN Age >= 18 AND Age < 30 THEN '18-29'
    WHEN Age >= 30 AND Age < 40 THEN '30-39'
    ELSE '40 and above'
END AS age_group
from l.cb
join l.spend on cb.customer = spend.costomer
GROUP BY age_group
ORDER BY total_spending DESC
;
quit ;

/* 8 Which is the most profitable segment? */
proc sql;
SELECT Segment, spend.SUM(Amount) ,repayment.SUM(Amount) ,
CASE
    WHEN SUM(repayment.Amount) > SUM(spend.Amount) AS segment_profit
    ELSE 0 END AS segment_profit
FROM l.cb

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join l.spend on cb.customer = spend.costomer
join l.repayment on cb.customer =repayment.costomer
group by Segment
ORDER BY segment_profit DESC;
quit;
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/* -- 9 In which category the customers are spending more money? */
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proc sql;
SELECT typess,sum(Amount) as Spending FROM l.spend
GROUP BY typess
ORDER BY Spending DESC
;
quit;
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/* -- 10 Monthly profit for the bank. */
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proc sql;
SELECT
    Month(Month) AS monthly,SUM(Amount) AS monthly_spend,limits,
    CASE
        WHEN SUM(Amount) > limits THEN (limits* 0.02 )
        ELSE 0
    END as bank_profit
FROM l.spend as a
join l.cb as b on a.costomer = b.customer
GROUP BY Month(Month)
;
quit;
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/* -- 11 Impose an interest rate of 2.9% for each customer for any due amount */
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proc sql;
SELECT
    costomer, Month(Month) AS monthly,SUM(Amount.spend) AS monthly_spend,limits,SUM(Amount.repayment) AS monthly_repayment
    CASE
        WHEN monthly_repayment> monthly_spend THEN (surplus* 2.9)
        END as Interest Amount

FROM l.spend as a
join l.repayment as b on a.Costomer = b.Costomer
GROUP BY surplus
;
quit;
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