SQL Queries – Snowflake

1. Creating Transaction Aggregate

-- Creating transaction aggregates

```
CREATE OR REPLACE VIEW TRANSACTION_AGGREGATE AS

SELECT

  CUSTOMER_ID,

  AVG(MONTHLY_INCOME)  AS AVG_MONTHLY_INCOME,

  AVG(MONTHLY_EXPENSE) AS AVG_MONTHLY_EXPENSE,

  AVG(CARD_SPEND_RETAIL) AS AVG_RETAIL_SPEND,

  AVG(CARD_SPEND_TRAVEL) AS AVG_TRAVEL_SPEND,

  AVG(CARD_SPEND_BILLS)  AS AVG_BILLS_SPEND,

  -- 0/1 sum = count of delinquencies

  SUM(CASE WHEN DELINQUENCY_FLAG = 1 THEN 1 ELSE 0 END) AS DELINQUENCY_COUNT_12M,

  SUM(OVERDUE_DAYS) AS TOTAL_OVERDUE_DAYS_12M,

  -- boolean expression is fine here because it IS boolean

  AVG(CASE WHEN MONTHLY_EXPENSE > MONTHLY_INCOME THEN 1 ELSE 0 END) AS
  OVER_BUDGET_RATIO

FROM TRANSACTIONS12MONTHS

GROUP BY CUSTOMER_ID;
```

Output:

	CUSTOMER_ID	AVG_MONTHLY_INCOME	AVG_MONTHLY_EXPENSE	AVG_RETAIL_SPEND	AVG_TRAVEL_SPEND	AVG_BILLS_SPEND	DELINQUENCY_COUNT_12M	TOTAL_OVERDUE_DAYS_12M	OVER_BUDGET_RATIO
1	CUST0001	32002.63333333	23262.61500000	8640.14166667	3700.46916667	10922.00166667	2	10	0.000000
2	CUST0002	198365.21250000	138507.95000000	51624.08416667	20119.74166667	66764.12666667	1	30	0.000000
3	CUST0003	49154.95416667	38447.84500000	14018.41833333	4676.60166667	19600.62166667	5	140	0.000000
4	CUST0004	8074.58916667	5941.88083333	2074.02500000	1116.96333333	2750.89416667	1	30	0.000000
5	CUST0005	41412.08166667	29206.23166667	12136.24666667	4498.48500000	12571.50250000	0	0	0.000000
6	CUST0007	250543.88166667	177279.95916667	59592.89333333	20803.70250000	96616.10750000	1	10	0.000000
7	CUST0008	59286.80416667	43505.60000000	16532.32083333	7181.16500000	19792.11250000	1	10	0.000000
8	CUST0009	282130.82416667	196357.57250000	71753.46333333	26026.64583333	98577.46416667	1	5	0.000000
9	CUST0011	25096.05250000	18325.68333333	6781.49000000	3332.01333333	8212.17916667	2	70	0.000000
10	CUST0012	32631.50666667	21916.53750000	7338.92500000	3629.44416667	10948.16916667	1	5	0.000000
11	CUST0013	33981.90250000	27175.86666667	8706.56833333	4644.37333333	13824.92333333	1	5	0.000000
12	CUST0015	195943.33666667	151496.47083333	56420.06166667	28851.28666667	66225.12250000	2	25	0.000000
13	CUST0016	146113.05416667	100937.73166667	29120.86000000	14625.31916667	57191.55500000	0	0	0.000000
14	CUST0017	17268.19000000	11751.58416667	4314.75500000	1737.11000000	5699.71833333	1	20	0.000000
15	CUST0018	279883.92666667	196531.47583333	58255.51333333	32092.37416667	106183.58916667	1	45	0.000000
16	CUST0020	51546.84083333	33663.99750000	12287.08500000	4813.03750000	16563.87416667	3	120	0.000000
17	CUST0021	24234.72500000	16709.39166667	6396.89500000	2279.67416667	8032.82000000	1	10	0.000000

2. Creating a master file for each customer

-- Creating a master file of each customer

```sql
CREATE OR REPLACE VIEW CUSTOMER_360 AS
SELECT
  d.CUSTOMER_ID,
  d.AGE,
  d.GENDER,
  d.INCOME_BRACKET,
  d.EMPLOYMENT_STATUS,
  d.CITY,

  -- Credit & risk
  c.CREDIT_SCORE,
  c.LOAN_HISTORY,
  c.CREDIT_UTILIZATION,
  c.DEFAULT_HISTORY,

  -- Product holding
  p.SAVINGS_ACCOUNT,
  p.CREDIT_CARD,
  p.LOAN_TYPE,
  p.LOAN_AMOUNT,
  p.INSURANCE,
  p.FD_INVESTMENT,

  -- Engagement
  e.NET_BANKING_USAGE,
  e.MOBILE_APP_USAGE,
  e.COMPLAINTS_RAISED,
```

```sql
        e.RESPONSE_TO_OFFERS,

        e.CHURN_FLAG,


        -- 12M transaction features

        t.AVG_MONTHLY_INCOME,

        t.AVG_MONTHLY_EXPENSE,

        t.AVG_RETAIL_SPEND,

        t.AVG_TRAVEL_SPEND,

        t.AVG_BILLS_SPEND,

        t.DELINQUENCY_COUNT_12M,

        t.TOTAL_OVERDUE_DAYS_12M,

        t.OVER_BUDGET_RATIO


FROM CUSTOMERDEMOGRAPHICS d

LEFT JOIN CREDITPROFILE c ON c.CUSTOMER_ID = d.CUSTOMER_ID

LEFT JOIN PRODUCTHOLDING p ON p.CUSTOMER_ID = d.CUSTOMER_ID

LEFT JOIN ENGAGEMENT e ON e.CUSTOMER_ID = d.CUSTOMER_ID

LEFT JOIN TRANSACTION_AGGREGATE t ON t.CUSTOMER_ID = d.CUSTOMER_ID;
```

Output:

CUSTOMER_I	AGE	GENDER	INCOME_BRACKET	EMPLOYMENT_STATUS	CITY	CREDIT_SCORE	LOAN_HISTORY	CREDIT_UTILIZATION	DEFAULT_HISTORY	SAVINGS_ACCOUNT	CREDIT_CARD	LOAN_TYPE	LOAN_AMOUNT	INSURANCE	FD_INVESTMENT
CUST0001	59	Female	3-6 LPA	Salaried	Ahmedabad	562	No Loans	10.11	TRUE	1	1	Home Loan	4832744	0	0
CUST0002	49	Other	15-25 LPA	Salaried	Ahmedabad	656	3-5 Loans	33.48	FALSE	1	1	Home Loan	6298138	1	0
CUST0003	35	Female	3-6 LPA	Self-Employed	Bengaluru	560	3-5 Loans	33.73	FALSE	1	0	Auto Loan	1653648	1	0
CUST0004	63	Female	<3 LPA	Unemployed	Kolkata	664	1-2 Loans	38.47	FALSE	1	1	None	0	1	0
CUST0005	28	Female	3-6 LPA	Self-Employed	Hyderabad	748	1-2 Loans	37.43	FALSE	1	1	Personal Loan	304262	0	0
CUST0006	41	Male	3-6 LPA	Salaried	Mumbai	677	1-2 Loans	30.18	FALSE	1	1	None	0	0	0
CUST0007	59	Other	25+ LPA	Salaried	Bengaluru	779	3-5 Loans	33.21	TRUE	1	1	None	0	0	0
CUST0008	39	Female	6-10 LPA	Self-Employed	Ahmedabad	727	1-2 Loans	45.68	FALSE	1	0	None	0	1	0
CUST0009	43	Female	25+ LPA	Salaried	Delhi	760	1-2 Loans	32.54	FALSE	1	1	None	0	1	0
CUST0010	31	Female	6-10 LPA	Student	Kolkata	634	1-2 Loans	42.53	FALSE	1	1	None	0	0	536727
CUST0011	31	Female	6-10 LPA	Unemployed	Bengaluru	632	No Loans	34.41	FALSE	1	1	Personal Loan	800921	0	0
CUST0012	44	Female	3-6 LPA	Self-Employed	Bengaluru	700	3-5 Loans	6.66	FALSE	1	0	None	0	1	0
CUST0013	56	Male	6-10 LPA	Student	Pune	585	No Loans	38.14	FALSE	1	1	None	0	0	1712235
CUST0014	60	Female	<3 LPA	Salaried	Bengaluru	708	1-2 Loans	23.38	FALSE	1	1	Auto Loan	1929437	0	0
CUST0015	44	Male	15-25 LPA	Self-Employed	Pune	660	No Loans	48.45	FALSE	1	1	Home Loan	3485183	0	1338672
CUST0016	23	Other	15-25 LPA	Salaried	Mumbai	759	No Loans	25.60	FALSE	1	0	None	0	0	0
CUST0017	42	Female	3-6 LPA	Student	Mumbai	720	1-2 Loans	19.92	FALSE	1	1	Personal Loan	864052	0	0
CUST0018	22	Male	25+ LPA	Salaried	Ahmedabad	745	6+ Loans	22.52	FALSE	1	0	None	0	0	789030
CUST0019	44	Female	15-25 LPA	Self-Employed	Delhi	634	3-5 Loans	16.11	TRUE	1	1	None	0	0	0
CUST0020	64	Female	10-15 LPA	Student	Chennai	742	No Loans	23.33	FALSE	1	1	Home Loan	3787495	0	672253
CUST0021	50	Female	<3 LPA	Salaried	Chennai	766	No Loans	8.19	FALSE	1	1	Personal Loan	724141	0	0
CUST0022	58	Female	6-10 LPA	Salaried	Chennai	677	3-5 Loans	48.33	FALSE	1	1	Home Loan	7990647	0	0
CUST0023	22	Male	6-10 LPA	Self-Employed	Ahmedabad	635	1-2 Loans	39.94	FALSE	1	1	None	0	0	1076433
CUST0024	41	Female	3-6 LPA	Salaried	Pune	636	No Loans	62.37	FALSE	1	1	Personal Loan	462641	0	0
CUST0025	53	Female	<3 LPA	Salaried	Ahmedabad	754	3-5 Loans	40.43	TRUE	1	1	Auto Loan	561597	1	0