**Bank Churn Analysis – SQL Project**

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Tools Used: SQL (MySQL), Visual Studio**

# **Introduction**

This SQL-based project analyzes churned bank customers using demographic and financial data. The purpose is to identify key trends, behavioral patterns, and risk segments associated with customer churn. Insights derived from this project help inform customer retention strategies and product improvements.

# **Objective**

The goal is to build a comprehensive SQL-driven backend to explore why customers leave the bank. Through a series of structured queries, the analysis uncovers churn trends across age, income, card usage, tenure, and demographic factors.

# **Dataset Overview**

The dataset bank\_churn\_data.csv includes 1,627 records representing only churned customers.

| Column Name | Description |
| --- | --- |
| clientnum | Unique client identifier |
| customer\_age | Age of the customer |
| gender | Gender of the customer |
| dependent\_count | Number of dependents |
| education\_level | Educational background |
| marital\_status | Marital status |
| income | Income category |
| card\_category | Type of credit card held |
| months\_on\_book | Duration as a client (in months) |
| credit\_limit | Credit limit assigned to the customer |
| utilization\_ratio | Ratio of utilized credit to credit limit |
| balance | Current account balance |
| churn | Indicates if the client churned (all = Yes) |

# **Core Questions Answered**

1. What are the average financial metrics (e.g., credit limit, utilization ratio, age)?
2. Which card categories and income groups churn the most?
3. How long do customers typically stay before churning?
4. Which demographic groups (gender, age, marital status) have higher churn?
5. How does credit utilization differ among churned clients?

# **SQL Queries and Analysis**

## **1. Total Customers, Age, Credit & Utilization**

SELECT

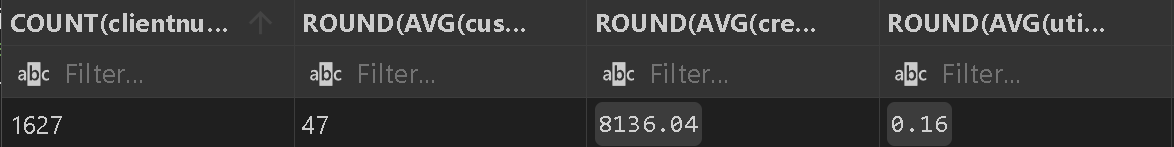
COUNT(clientnum),

ROUND(AVG(customer\_age)),

ROUND(AVG(credit\_limit), 2),

ROUND(AVG(utilization\_ratio), 2)

FROM bank\_churn\_data;

[](https://private-user-images.githubusercontent.com/187912411/426265449-2c3b891a-bfb0-47bc-8868-08ff4da0afa8.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY1NDQ5LTJjM2I4OTFhLWJmYjAtNDdiYy04ODY4LTA4ZmY0ZGEwYWZhOC5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT00MmI0ZGYyZmNlZDc1YTE0NTBmM2VhZDliMmIyNjhlNmJlMzFiMTIwNDUwZjNmZjUyN2M5MDU2NmZjYjBmZjllJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.Yft9jAliCOUp6fOaK-edzVnXdlymS8zo6n2EcvCH1zo)

**Key Insight:**

* Total Customers: 1,627
* Average Age: 47 years
* Average Credit Limit: $8,136.04
* Average Utilization Ratio: 16.0%

## **2. Average Balance and Credit by Income Group**

SELECT

income,

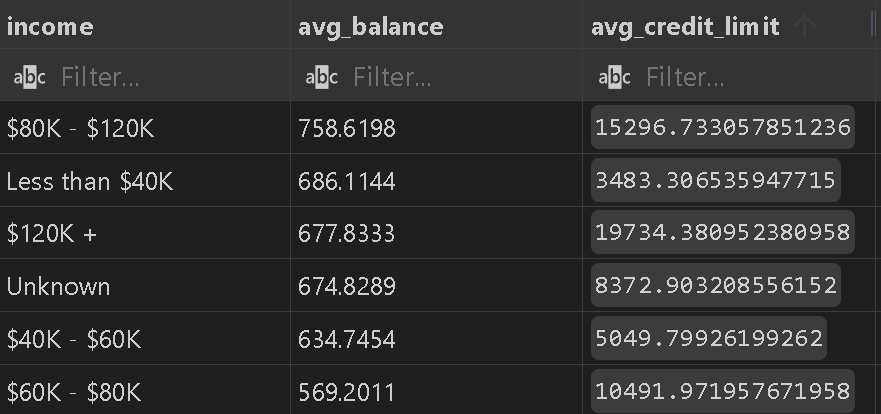
AVG(balance) AS avg\_balance,

AVG(credit\_limit) AS avg\_credit\_limit

FROM bank\_churn\_data

GROUP BY income

ORDER BY avg\_balance DESC;

[](https://private-user-images.githubusercontent.com/187912411/426266706-29841096-06c3-48c2-8a2e-b571b5702780.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY2NzA2LTI5ODQxMDk2LTA2YzMtNDhjMi04YTJlLWI1NzFiNTcwMjc4MC5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT1jNWJkYTJjZWEwZThmZTRkN2RmZDA3ODQ3ZjU0ZTU2NzQ1YjcxM2FlZmU4Zjg4NzYwNmYxMDc2NTg5MjlhNzkxJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.yV-ws1hidH_-7aItoHuk9EniagJQGJhdeop_P8kpMlg)

**Key Insight**: Customers earning $80K–$120K have higher balances and access to more credit. However, even lower-income groups hold significant credit limits, suggesting broad access.

## **3. Utilization Distribution Categories**

SELECT

CASE

WHEN utilization\_ratio < 0.2 THEN 'Low (0-20%)'

WHEN utilization\_ratio BETWEEN 0.2 AND 0.5 THEN 'Moderate (20-50%)'

ELSE 'High (50%+)'

END AS utilization\_category,

COUNT(\*) AS total\_customers

FROM bank\_churn\_data

GROUP BY

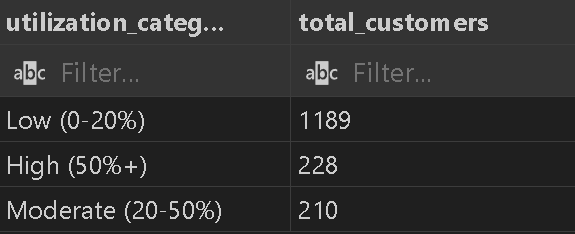
CASE

WHEN utilization\_ratio < 0.2 THEN 'Low (0-20%)'

WHEN utilization\_ratio BETWEEN 0.2 AND 0.5 THEN 'Moderate (20-50%)'

ELSE 'High (50%+)'

END;

[](https://private-user-images.githubusercontent.com/187912411/426267081-5e055cf8-712a-4cc7-9cf2-fc0de4be716a.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY3MDgxLTVlMDU1Y2Y4LTcxMmEtNGNjNy05Y2YyLWZjMGRlNGJlNzE2YS5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT0yZDgxM2FkNjRhNjFjNzQ2Y2U3YTZlMjZkNmZjMWRhZjAwZGNhYTRkY2Y0ZTAxMGRhM2U5NWZjY2VjM2EwMzIwJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.03FGnm3CTVe7tzBPKi-tCr8Qr1BIBIrYY-NnVXoZkXo)

**Key Insight:** 58.5% of churned customers had low credit utilization (0–20%), indicating churn may be driven by lack of engagement, not debt pressure.

## **4. Top 10 Customers by Utilization**

SELECT

clientnum,

customer\_age,

income,

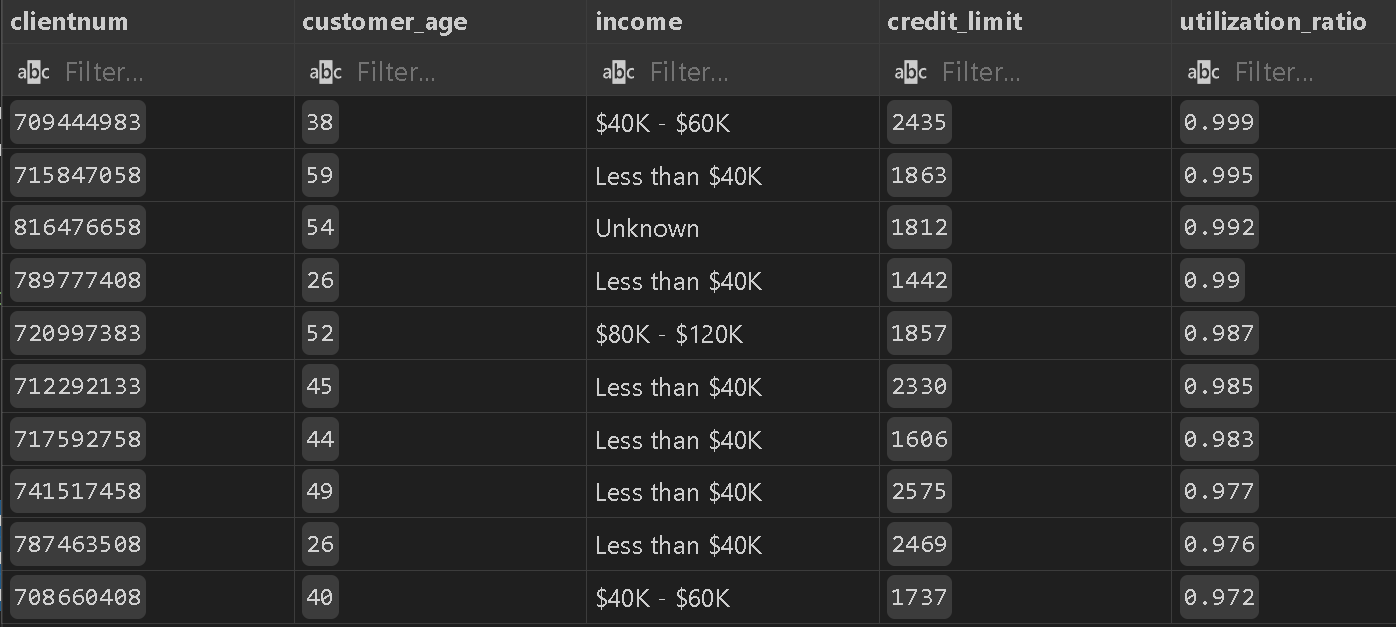
credit\_limit,

ROUND(utilization\_ratio, 3) AS utilization\_ratio

FROM bank\_churn\_data

ORDER BY utilization\_ratio DESC

LIMIT 10;

[](https://private-user-images.githubusercontent.com/187912411/426267592-ec88f387-b0a8-44aa-a136-590293f51d4b.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY3NTkyLWVjODhmMzg3LWIwYTgtNDRhYS1hMTM2LTU5MDI5M2Y1MWQ0Yi5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT1iZjQ4YjIzZTIzZTI3YzM2N2QwYzYwODgzOWQzNDUyYjk1NDVjYmI3Njg2YzdhZGM5OTJiZWRiMTI4MTMzMGJhJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.Dm0-1s0xb8I5zVdexuBczzhp7--Xufx3AbGQ4wJMPoY)

## **5. Gender-Based Financial Behavior**

SELECT

gender,

COUNT(\*) AS total\_customers,

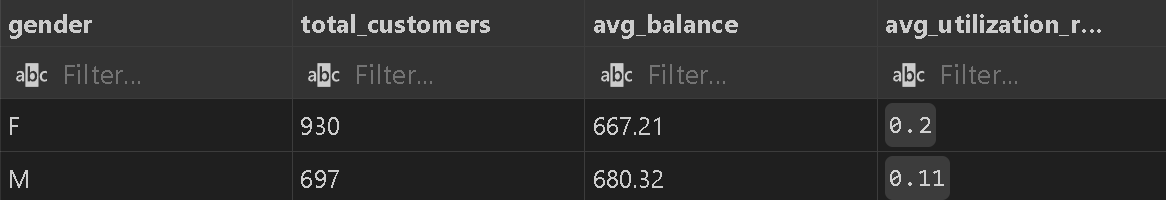
ROUND(AVG(balance), 2) AS avg\_balance,

ROUND(AVG(utilization\_ratio), 2) AS avg\_utilization\_ratio

FROM bank\_churn\_data

GROUP BY gender

ORDER BY gender;

[](https://private-user-images.githubusercontent.com/187912411/426268233-bd3e7f29-059b-49db-beab-39e9c9ca3e12.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY4MjMzLWJkM2U3ZjI5LTA1OWItNDlkYi1iZWFiLTM5ZTljOWNhM2UxMi5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT0yY2RhN2M3Y2Q2Zjc3MzY4YjZkZmZiZmUzNThmNTc4ODY2MGVhNWIwYTAyODhlOWE0NDUzNzA4OGNhMTdhOTUwJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.VpYrw1fTvNXYVl5Ex9SBnpHQaleQYOUeYz2_WiXBHzs)

**Key Insight:**

* Female customers: 57.2% of churned clients
* Their credit usage is slightly lower on average than males.

## **6. Card Category and Churn Volume**

SELECT

card\_category,

COUNT(clientnum) AS number\_of\_customers,

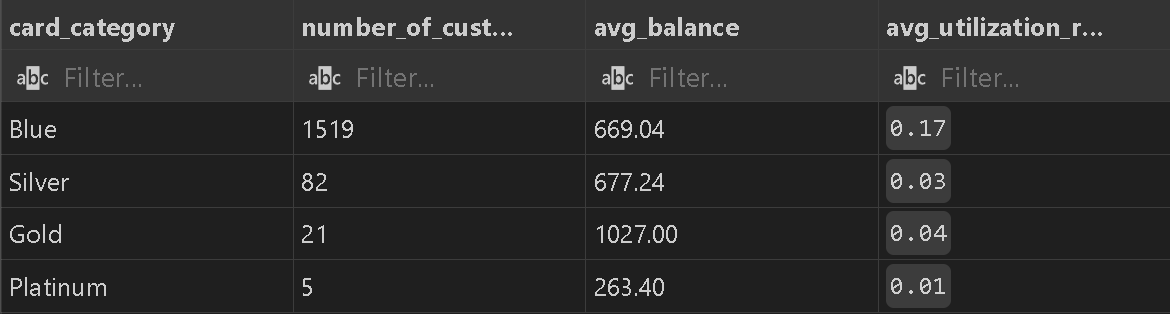
ROUND(AVG(balance), 2) AS avg\_balance,

ROUND(AVG(utilization\_ratio), 2) AS avg\_utilization\_ratio

FROM bank\_churn\_data

GROUP BY card\_category

ORDER BY number\_of\_customers DESC;

[](https://private-user-images.githubusercontent.com/187912411/426268538-77e114c6-5744-41d1-881e-4bc44b304e5a.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY4NTM4LTc3ZTExNGM2LTU3NDQtNDFkMS04ODFlLTRiYzQ0YjMwNGU1YS5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT1kZGEwNGRhZDRkMzM2ODUyMWY0YzdmMzQ1NDRkY2QxYzkyNWM5ODBmY2E5NDhkOGQyMjA2Y2IzYmUyN2NjNTE2JlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.CvEQUviKwo2ujw0MAYpAaOr_pZ1WBXPpuDrM3M9qKko)

**Key Insight:**

* Blue cardholders: 93% of churned clients
* Suggests the basic credit card tier is underperforming in terms of retention.

## **7. Average Balance by Income Group**

-- Average Bank Balance by Income Level

SELECT

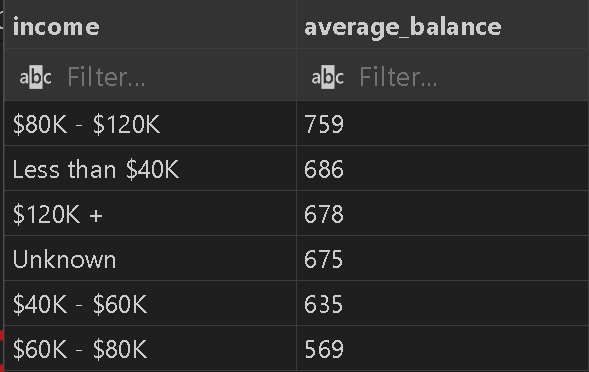
income,

ROUND(AVG(balance)) AS average\_balance

FROM bank\_churn\_data

GROUP BY income

ORDER BY average\_balance DESC;

[](https://private-user-images.githubusercontent.com/187912411/426268818-d79ad1b5-f659-4b00-b8f5-45618b53a8ca.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY4ODE4LWQ3OWFkMWI1LWY2NTktNGIwMC1iOGY1LTQ1NjE4YjUzYThjYS5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT01YmRmM2E1ODJhZWEzNDBkNmEyYTdjOTFjZWIyMDhkYjdmY2FiM2UxYTk3ZjA0ZjFkNmU1NjYzNzcxNjExNDRhJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.NjxVNH9GZSd1DI8VMU3vWdm-_s8q76N94dE0MOSkZHg)

**Key Insight:** Higher income = higher average balance, as expected. However, mid-tier income groups churn rapidly.

## **8. Marital Status Distribution**

SELECT

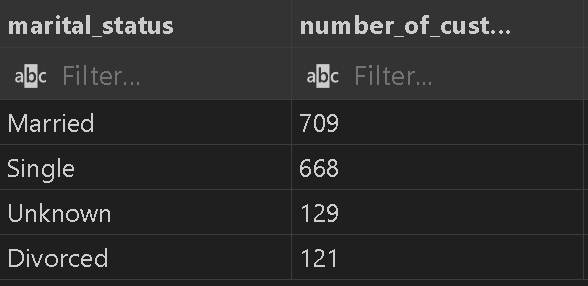
marital\_status,

COUNT(clientnum) AS number\_of\_customers

FROM bank\_churn\_data

GROUP BY marital\_status

ORDER BY number\_of\_customers DESC;

[](https://private-user-images.githubusercontent.com/187912411/426269077-d0c48135-fea0-45a8-a72a-88d45e4f4924.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY5MDc3LWQwYzQ4MTM1LWZlYTAtNDVhOC1hNzJhLTg4ZDQ1ZTRmNDkyNC5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT05MWM2YmJjZjEwY2M3NzEwMTM5YWI1YjkxODZiMjBhNjRiYWJmMjMzMDMyYWM2MGE0OGU4MDJmNzgxNmVkYzQ3JlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.QfoxH2tAK080p4fJYPMhQCcF6dV5g2yo0BqqTVwkpwo)

**Key Insight:**

* Married customers: 43.6% of all churned users.
* Programs should address relationship-based financial needs and family planning stages.

## **9. Customer Tenure (Months on Book)**

SELECT

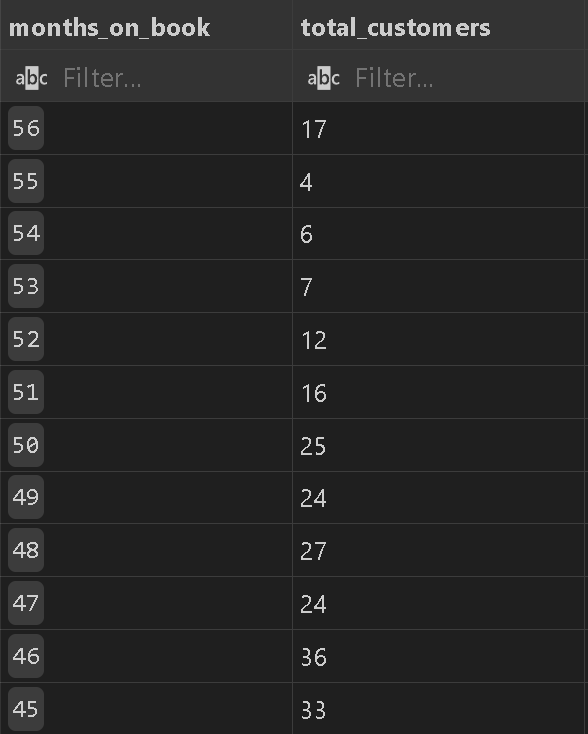
months\_on\_book,

COUNT(\*) AS total\_customers

FROM bank\_churn\_data

GROUP BY months\_on\_book

ORDER BY months\_on\_book DESC;

[](https://private-user-images.githubusercontent.com/187912411/426269681-078b3fc9-508c-4195-924b-a9ccb608f722.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjY5NjgxLTA3OGIzZmM5LTUwOGMtNDE5NS05MjRiLWE5Y2NiNjA4ZjcyMi5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT0xZWFkOTU0ZTJmNTJkZTZlODZjMjlkMWNkYTE0MTk5YzUzMmVlMTQwNjYyZTg4NWQ0ODFlMzljMTlkNjQ5MDY0JlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.9gm5TvvEd-VwF2rt_YPSgoaLsT6Mikz_gAsxqKj8pHw)

**Key Insight:**

* Most customers churn between 35 and 50 months of tenure.
* Indicates a critical drop-off point after ~3 years.

## **10. Income Group with Shortest Tenure**

SELECT

income,

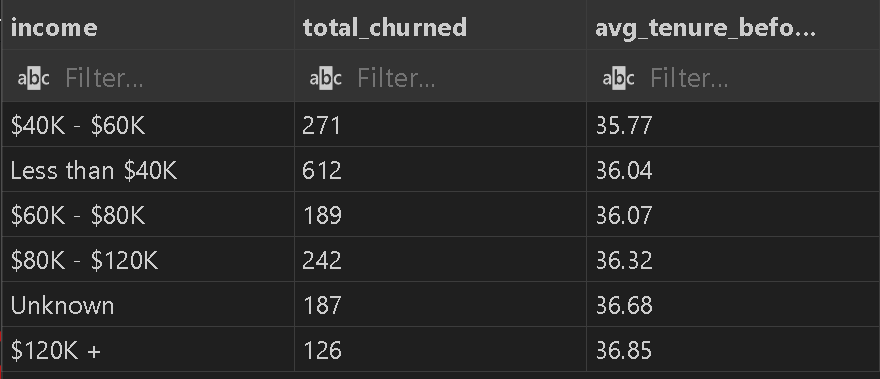
COUNT(\*) AS total\_churned,

ROUND(AVG(months\_on\_book), 2) AS avg\_tenure\_before\_churn

FROM bank\_churn\_data

GROUP BY income

ORDER BY avg\_tenure\_before\_churn ASC;

[](https://private-user-images.githubusercontent.com/187912411/426271142-a53bcdb4-a23f-49e6-bfaf-8246e43ac7e5.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjcxMTQyLWE1M2JjZGI0LWEyM2YtNDllNi1iZmFmLTgyNDZlNDNhYzdlNS5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT1kYjM1YjgwNDI0Zjc2NGFiOWE0OWZlNDI2OTQ1NWJlNmJkMjVhM2Y3NDEyYjUzNjlmNTk2MmE0ZTI0ODAwMTMyJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.xoeVv7HNAVUpPIpFUtZCzzrD12LbI9wuJ51TjRhlpGA)

**Key Insight:**

* $40K–$60K income group has the shortest average tenure at ~35.77 months
* These mid-income customers may need targeted value-based programs.

## **11.Age Group Segmentation**

SELECT

age\_group,

COUNT(\*) AS number\_of\_customers

FROM (

SELECT

CASE

WHEN customer\_age BETWEEN 18 AND 25 THEN '18-25'

WHEN customer\_age BETWEEN 26 AND 35 THEN '26-35'

WHEN customer\_age BETWEEN 36 AND 45 THEN '36-45'

WHEN customer\_age BETWEEN 46 AND 55 THEN '46-55'

ELSE '56+'

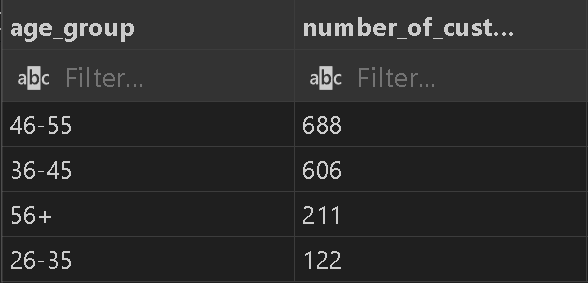
END AS age\_group

FROM bank\_churn\_data

) AS age\_groups

GROUP BY age\_group

ORDER BY number\_of\_customers DESC;

[](https://private-user-images.githubusercontent.com/187912411/426272797-276afe5b-730e-4421-bdee-25df7b5e7280.png?jwt=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJnaXRodWIuY29tIiwiYXVkIjoicmF3LmdpdGh1YnVzZXJjb250ZW50LmNvbSIsImtleSI6ImtleTUiLCJleHAiOjE3NDI4NTM3NTMsIm5iZiI6MTc0Mjg1MzQ1MywicGF0aCI6Ii8xODc5MTI0MTEvNDI2MjcyNzk3LTI3NmFmZTViLTczMGUtNDQyMS1iZGVlLTI1ZGY3YjVlNzI4MC5wbmc_WC1BbXotQWxnb3JpdGhtPUFXUzQtSE1BQy1TSEEyNTYmWC1BbXotQ3JlZGVudGlhbD1BS0lBVkNPRFlMU0E1M1BRSzRaQSUyRjIwMjUwMzI0JTJGdXMtZWFzdC0xJTJGczMlMkZhd3M0X3JlcXVlc3QmWC1BbXotRGF0ZT0yMDI1MDMyNFQyMTU3MzNaJlgtQW16LUV4cGlyZXM9MzAwJlgtQW16LVNpZ25hdHVyZT05ZTEyN2IzNTU0NTIxYjE5ZDUzYzVjNjlmZmEyZjBiYzZlNGU3YTkxOGEyODBjN2U2Y2MxYzIyYjgyOTI4YzdkJlgtQW16LVNpZ25lZEhlYWRlcnM9aG9zdCJ9.sfeGBReG-GvFZ7Dn3qBn7-GfwqNiTGF4YIfsPrinKsM)

**Key Insight**:

| Age Group | % of Churned Customers |
| --- | --- |
| 46–55 | 28.6% |
| 36–45 | 23.8% |
| 26–35 | 20.7% |
| 56+ | 18.1% |
| 18–25 | 8.8% |

* Middle-aged customers (36–55) are at highest risk of churn. These groups should be prioritized for retention and product redesign.

# **Key Insights Summary**

| Insight Area | Findings |
| --- | --- |
| Utilization Ratio | 58.5% of churned customers had low utilization (<20%) |
| Credit Limit | Average credit limit = $8,136.04 |
| Tenure Risk | Highest churn at 35–50 months |
| Blue Card Impact | 93% of churned clients used the basic Blue card |
| Mid-Income Sensitivity | $40K–$60K earners had shortest tenure: 35.77 months |
| Demographics | 57.2% female, 43.6% married among churned clients |
| Age Risk Zone | 46–55 age group = highest churn segment |

## **Key Metrics**

* Total Churned Clients: 1,627
* Average Age: 47 years
* Average Credit Limit: $8,136.04
* Average Utilization Ratio: 16.0%

## **Financial Behavior**

* 58.5% of customers used less than 20% of their credit (Low Utilization)
* Churn isn't always due to financial stress—inactivity may be the cause
* Higher-income clients tend to have larger balances and credit limits

## **Card Category Insights**

* Blue Card holders account for 93% of churned customers
* Premium cardholders (Silver, Gold, Platinum) also churned—indicating benefit gaps

## **Demographics**

* 57.2% of churned users were female
* 43.6% were married
* Most churned clients fall into the 46–55 age group

## **Tenure Analysis**

* Churn peaks between 35–50 months of customer relationship
* Clients with $40K–$60K income had the shortest tenure (~35.77 months) This SQL-based analysis provides actionable insights into customer churn behavior.

# **Recommendations**

* Improve Blue card benefits to increase engagement
* Introduce re-engagement campaigns before the 36-month mark
* Create personalized offers for mid-income earners
* Target 46–55 age group with tailored retention strategies
* Monitor low utilization as an early signal for churn risk
* Strengthen onboarding and first-year experiences