

# Data Cleaning

# Excel Data Cleaning Plan – For Both Sheets in Banking\_Mini\_Project.xlsx

Let's assume the sheets are:

- **Sheet1:** Customer\_Transactions
- **Sheet2:** Account\_Details
- (If names are different, I'll adjust once you confirm.)
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Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

From Access From Web From Text From Other Sources Get External Data Existing Connections Refresh All Edit Links Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Flash Fill Remove Duplicates Validation Data Tools Consolidate What-If Analysis Relationships Group Ungroup Subtotal Outline Show Detail Hide Detail

A2 X ✓ f CUST0001

Customer ID	Name	Gender	Age	City	Account Type	Account Open Date
CUST0001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06
CUST0002	Noah Rhodes	Male	60	Erode	Current	2019-12-13
CUST0003	Angie Henderson	Female	31	Salem	Savings	2016-12-28
CUST0004	Daniel Wagner	Male	59	Erode	Savings	2024-09-12
CUST0005	Cristian Santos	Male	58	Salem	Current	2022-01-13
CUST0006	Connie Lawrence	Male	56	Madurai	Current	2018-08-02
CUST0007	Abigail Shaffer	Male	19	Tirunelveli	Current	2021-10-02
CUST0008	Gina Moore	Male	21	Salem	Savings	2021-12-06
CUST0009	Gabrielle Davis	Female	68	Chennai	Savings	2021-09-22
CUST0010	Ryan Munoz	Male	39	Tirunelveli	Current	2018-08-13
CUST0011	Monica Herrera	Male	33	Tirunelveli	Savings	2023-01-09
CUST0012	Jamie Arnold	Male	26	Chennai	Savings	2016-03-14
CUST0013	Lisa Hensley	Male	68	Chennai	Current	2019-12-03
CUST0014	Michele Williams	Male	54	Chennai	Savings	2022-12-03
CUST0015	Dylan Miller	Male	31	Erode	Savings	2023-05-09
CUST0016	Brian Ramirez	Male	22	Tirunelveli	Current	2019-12-03
CUST0017	Holly Wood	Female	66	Salem	Current	2019-04-16
CUST0018	Derek Zuniga	Male	53	Madurai	Current	2020-01-04
CUST0019	Lisa Johnson	Female	31	Erode	Savings	2023-01-15

Remove Duplicates

To delete duplicate values, select one or more columns that contain duplicates.

Select All Unselect All My data has headers

Columns

- ☒ Customer\_ID
- ☒ Name
- ☒ Gender
- ☒ Age
- ☒ City
- ☒ Account Type

OK Cancel

Customer\_Info Transaction\_Data

READY AVERAGE: 22031.6415 COUNT: 7007 SUM: 44063283 100%

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

From Access From Web From Text From Other Sources Get External Data Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Flash Fill Remove Duplicates Data Validation Consolidate What-If Analysis Relationships Group Ungroup Subtotal Show Detail Hide Detail Outline

A2 TXN0001

Transaction ID	Customer ID	Transaction Date	Transaction Type	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	Debit	67338.9	Debit Card
TXN0002	CUST0727	2025-05-12	Debit	42642.3	Credit Card
TXN0003	CUST0519	2024-10-21	Debit	35156.6	Debit Card
TXN0004	CUST0414	2024-12-16	Credit	32413.5	UPI
TXN0005	CUST0139	2025-04-13	Credit	59590.8	Cash
TXN0006	CUST0800	2024-12-14	Debit	2908.58	UPI
TXN0007	CUST0872	2025-05-20	Credit	30829.5	Credit Card
TXN0008	CUST0537	2025-01-30	Debit	98771.4	Debit Card
TXN0009	CUST0901	2024-06-12	Debit	61814	UPI
TXN0010	CUST0583	2024-12-21	Credit	99020.8	Net Banking
TXN0011	CUST0030	2025-05-18	Credit	44499.9	Net Banking
TXN0012	CUST0178	2024-08-02	Credit	15008.9	Net Banking
TXN0013	CUST0198	2024-11-27	Debit	4965.32	Debit Card
TXN0014	CUST0897	2024-08-13	Credit	81908.1	Credit Card
TXN0015	CUST0853	2024-09-07	Debit	20368.7	Debit Card
TXN0016	CUST0206	2024-07-09	Debit	37695.2	Credit Card
TXN0017	CUST0858	2024-12-26	Debit	75894.5	Cash
TXN0018	CUST0060	2025-02-14	Credit	85350	Debit Card

Remove Duplicates

To delete duplicate values, select one or more columns that contain duplicates.

Select All Unselect All My data has headers

Columns

- ☒ Transaction\_ID
- ☒ Customer\_ID
- ☒ Transaction\_Date
- ☒ Transaction\_Type
- ☒ Amount
- ☒ Mode of Payment

OK Cancel

READY AVERAGE: 48146.9094 COUNT: 6006 SUM: 96293818.8 100%

## 1. Remove Duplicates

- Select the entire data table.
- Go to Data → Remove Duplicates.  
Description: Removed duplicate records to maintain unique transactions.

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Sign in

Customer\_ID

Customer ID	Name	Gender	Age	City	Account Type	Account Open Date
CUST0001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06
CUST0002	Noah Rhodes	Male	60	Erode	Current	2019-12-13
CUST0003	Angie Henderson	Female	31	Salem	Savings	2016-12-28
CUST0004	Daniel Wagner	Male	59	Erode	Savings	2024-09-12
CUST0005	Cristian Santos	Male	58	Salem	Current	2022-01-13
CUST0006	Connie Lawrence	Male	56	Madurai	Current	2018-08-02
CUST0007	Abigail Shaffer	Male	19	Tirunelveli	Current	2021-10-02
CUST0008	Gina Moore	Male	21	Salem	Savings	2021-12-06
CUST0009	Gabrielle Davis	Female	68	Chennai	Savings	2021-09-22
CUST0010	Ryan Munoz	Male	39	Tirunelveli	Current	2018-08-13
CUST0011	Monica Herrera	Male	33	Tirunelveli	Savings	2023-01-09
CUST0012	Jamie Arnold	Male	26	Chennai	Savings	2016-03-14
CUST0013	Lisa Hensley	Male	68	Chennai	Current	2019-12-03
CUST0014	Michele Williams	Male	54	Chennai	Savings	2022-12-03
CUST0015	Dylan Miller	Male	31	Erode	Savings	2023-05-09
CUST0016	Brian Ramirez	Male	22	Tirunelveli	Current	2019-12-03
CUST0017	Holly Wood	Female	66	Salem	Current	2019-04-16
CUST0018	Derek Zuniga	Male	53	Madurai	Current	2020-01-04

Create Table

Where is the data for your table?

=SA:\$G

☒ My table has headers

OK Cancel

POINT AVERAGE: 22031.6415 COUNT: 7007 SUM: 44063283

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Sign in

Transaction\_ID

Transaction ID	Customer ID	Transaction Date	Transaction Type	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	Debit	67338.9	Debit Card
TXN0002	CUST0727	2025-05-12	Debit	42642.3	Credit Card
TXN0003	CUST0519	2024-10-21	Debit	35156.6	Debit Card
TXN0004	CUST0414	2024-12-16	Credit	32413.5	UPI
TXN0005	CUST0139	2025-04-13	Credit	59590.8	Cash
TXN0006	CUST0800	2024-12-14	Debit	2908.58	UPI
TXN0007	CUST0872	2025-05-20	Credit	30829.5	Credit Card
TXN0008	CUST0537	2025-01-30	Debit	98771.4	Debit Card
TXN0009	CUST0901	2024-06-12	Debit	61814	UPI
TXN0010	CUST0583	2024-12-21	Credit	99020.8	Net Banking
TXN0011	CUST0030	2025-05-18	Credit	44499.9	Net Banking
TXN0012	CUST0178	2024-08-02	Credit	15008.9	Net Banking
TXN0013	CUST0198	2024-11-27	Debit	4965.32	Debit Card
TXN0014	CUST0897	2024-08-13	Credit	81908.1	Credit Card
TXN0015	CUST0853	2024-09-07	Debit	20368.7	Debit Card
TXN0016	CUST0206	2024-07-09	Debit	37695.2	Credit Card
TXN0017	CUST0858	2024-12-26	Debit	75894.5	Cash
TXN0018	CUST0060	2025-02-14	Credit	85350	Debit Card

Create Table

Where is the data for your table?

=SA:\$F

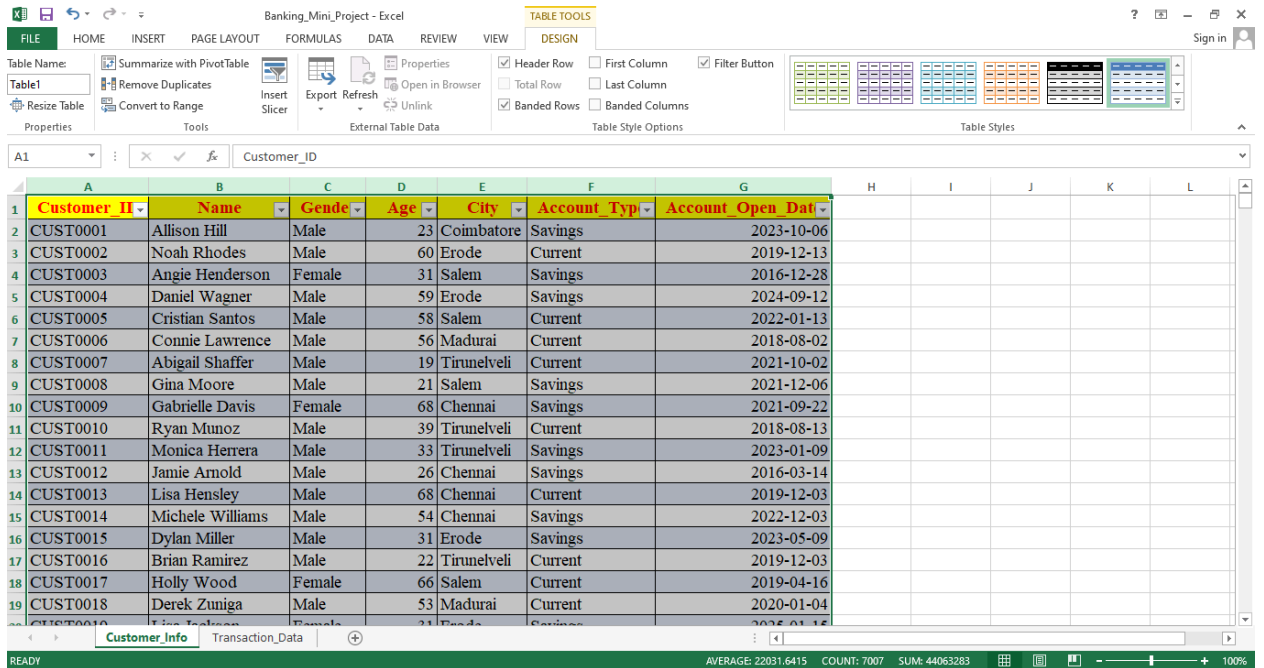
☒ My table has headers

OK Cancel

POINT AVERAGE: 48146.9094 COUNT: 6006 SUM: 96293818.8

## 2. Format as Table

- Select your data.
- Go to **Insert** → **Table** → Tick “My table has headers”.
- 
- **Description:** *Formatted data into a table for structured analysis.*
- 



Banking\_Mini\_Project - Excel

TABLE TOOLS: DESIGN

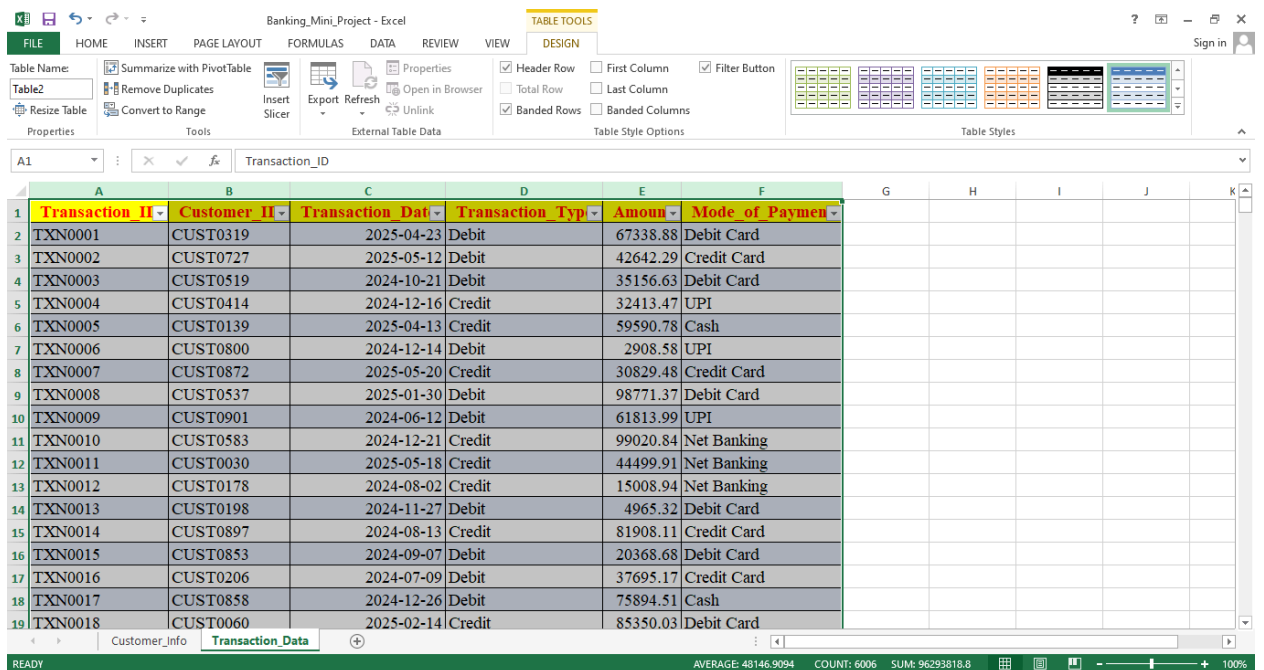
Table Name: Table1

Properties: Summarize with PivotTable, Remove Duplicates, Convert to Range

Tools: Insert Slicer, Export, Refresh, Open in Browser, Unlink

External Table Data: ☒ Header Row, ☐ First Column, ☒ Filter Button, ☐ Total Row, ☐ Last Column, ☒ Banded Rows, ☐ Banded Columns

Customer_ID	Name	Gender	Age	City	Account_Type	Account_Open_Date
CUST0001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06
CUST0002	Noah Rhodes	Male	60	Erode	Current	2019-12-13
CUST0003	Angie Henderson	Female	31	Salem	Savings	2016-12-28
CUST0004	Daniel Wagner	Male	59	Erode	Savings	2024-09-12
CUST0005	Cristian Santos	Male	58	Salem	Current	2022-01-13
CUST0006	Connie Lawrence	Male	56	Madurai	Current	2018-08-02
CUST0007	Abigail Shaffer	Male	19	Tirunelveli	Current	2021-10-02
CUST0008	Gina Moore	Male	21	Salem	Savings	2021-12-06
CUST0009	Gabrielle Davis	Female	68	Chennai	Savings	2021-09-22
CUST0010	Ryan Munoz	Male	39	Tirunelveli	Current	2018-08-13
CUST0011	Monica Herrera	Male	33	Tirunelveli	Savings	2023-01-09
CUST0012	Jamie Arnold	Male	26	Chennai	Savings	2016-03-14
CUST0013	Lisa Hensley	Male	68	Chennai	Current	2019-12-03
CUST0014	Michele Williams	Male	54	Chennai	Savings	2022-12-03
CUST0015	Dylan Miller	Male	31	Erode	Savings	2023-05-09
CUST0016	Brian Ramirez	Male	22	Tirunelveli	Current	2019-12-03
CUST0017	Holly Wood	Female	66	Salem	Current	2019-04-16
CUST0018	Derek Zuniga	Male	53	Madurai	Current	2020-01-04



Banking\_Mini\_Project - Excel

TABLE TOOLS: DESIGN

Table Name: Table2

Properties: Summarize with PivotTable, Remove Duplicates, Convert to Range

Tools: Insert Slicer, Export, Refresh, Open in Browser, Unlink

External Table Data: ☒ Header Row, ☐ First Column, ☒ Filter Button, ☐ Total Row, ☐ Last Column, ☒ Banded Rows, ☐ Banded Columns

Transaction_ID	Customer_ID	Transaction_Date	Transaction_Type	Amount	Mode_of_Payment
TXN0001	CUST0319	2025-04-23	Debit	67338.88	Debit Card
TXN0002	CUST0727	2025-05-12	Debit	42642.29	Credit Card
TXN0003	CUST0519	2024-10-21	Debit	35156.63	Debit Card
TXN0004	CUST0414	2024-12-16	Credit	32413.47	UPI
TXN0005	CUST0139	2025-04-13	Credit	59590.78	Cash
TXN0006	CUST0800	2024-12-14	Debit	2908.58	UPI
TXN0007	CUST0872	2025-05-20	Credit	30829.48	Credit Card
TXN0008	CUST0537	2025-01-30	Debit	98771.37	Debit Card
TXN0009	CUST0901	2024-06-12	Debit	61813.99	UPI
TXN0010	CUST0583	2024-12-21	Credit	99020.84	Net Banking
TXN0011	CUST0030	2025-05-18	Credit	44499.91	Net Banking
TXN0012	CUST0178	2024-08-02	Credit	15008.94	Net Banking
TXN0013	CUST0198	2024-11-27	Debit	4965.32	Debit Card
TXN0014	CUST0897	2024-08-13	Credit	81908.11	Credit Card
TXN0015	CUST0853	2024-09-07	Debit	20368.68	Debit Card
TXN0016	CUST0206	2024-07-09	Debit	37695.17	Credit Card
TXN0017	CUST0858	2024-12-26	Debit	75894.51	Cash
TXN0018	CUST0060	2025-02-14	Credit	85350.03	Debit Card

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

Account\_Open\_Date

Customer ID	Name	Gender	Age	City	Account Type	Account Open Date
CUST0001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06
CUST0002	Noah R					2019-12-13
CUST0003	Angie H					2016-12-28
CUST0004	Daniel V					2024-09-12
CUST0005	Cristian					2022-01-13
CUST0006	Connie I					2018-08-02
CUST0007	Abigail S					2021-10-02
CUST0008	Gina Mc					2021-12-06
CUST0009	Gabriella					2021-09-22
CUST0010	Ryan M					2018-08-13
CUST0011	Monica					2023-01-09
CUST0012	Jamie A					2016-03-14
CUST0013	Lisa Her					2019-12-03
CUST0014	Michele					2022-12-03
CUST0015	Dylan M					2023-05-09
CUST0016	Brian R					2019-12-03
CUST0017	Holly W					2019-04-16
CUST0018	Derek Z					2020-01-04

Format Cells

Category: Accounting

Type: \*14-03-2012

Locale (location): English (India)

Calendar type: Western

OK Cancel

READY AVERAGE: 44019.147 COUNT: 1001 SUM: 44019147 100%

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

Amount

Transaction ID	Customer ID	Transaction Date	Transaction Type	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	Debit	67338.88	Debit Card
TXN0002				42642.29	Credit Card
TXN0003				35156.63	Debit Card
TXN0004				32413.47	UPI
TXN0005				59590.78	Cash
TXN0006				2908.58	UPI
TXN0007				30829.48	Credit Card
TXN0008				98771.37	Debit Card
TXN0009				61813.99	UPI
TXN0010				99020.84	Net Banking
TXN0011				44499.91	Net Banking
TXN0012				15008.94	Net Banking
TXN0013				4965.32	Debit Card
TXN0014				81908.11	Credit Card
TXN0015				20368.68	Debit Card
TXN0016				37695.17	Credit Card
TXN0017				75894.51	Cash
TXN0018				85350.03	Debit Card

Format Cells

Category: Accounting

Decimal places: 2

Symbol: ₹

Negative numbers: ₹ -1,234.10

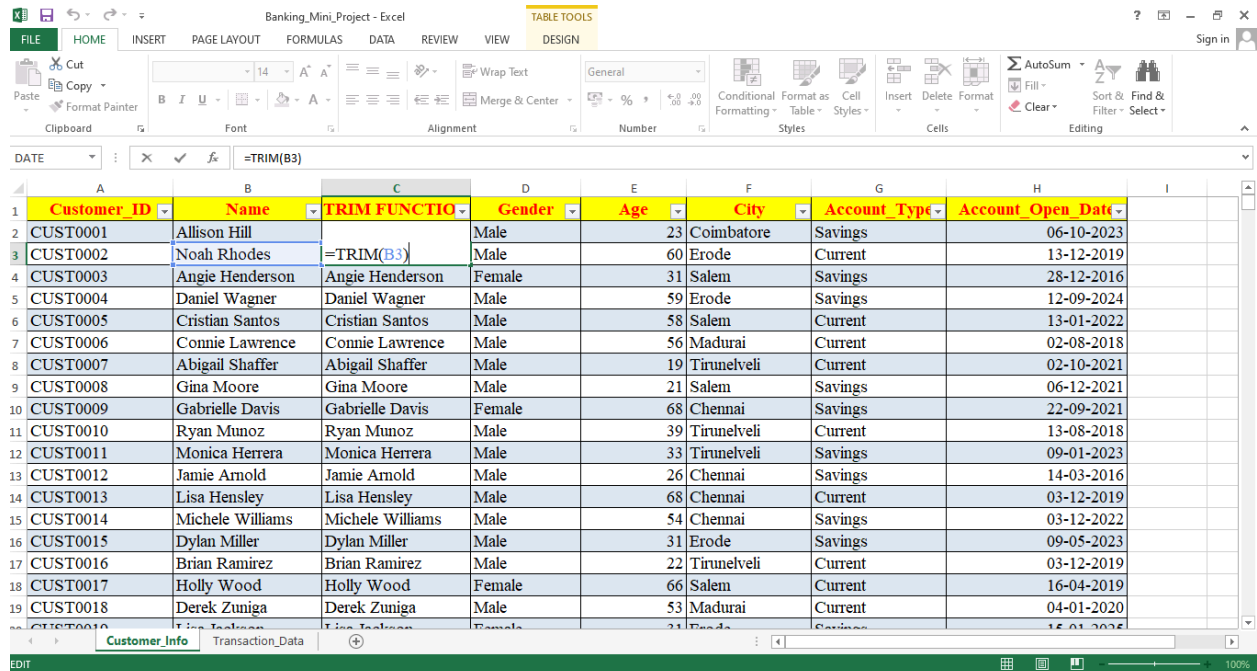
OK Cancel

READY AVERAGE: 50660.6038 COUNT: 1001 SUM: 50660603.8 100%

### 3. Change Data Types

- Transaction Date → Format as **Short Date**.
- Amount → Format as **Currency** or **Number**.

**Description:** *Standardized data types for accurate filtering and calculations.*



Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

DATE : X ✓ fx =TRIM(B3)

	A	B	C	D	E	F	G	H	I
	Customer ID	Name	TRIM FUNCTION	Gender	Age	City	Account Type	Account Open Date	
1	CUST0001	Allison Hill		Male	23	Coimbatore	Savings	06-10-2023	
2	CUST0002	Noah Rhodes	=TRIM(B3)	Male	60	Erode	Current	13-12-2019	
3	CUST0003	Angie Henderson	Angie Henderson	Female	31	Salem	Savings	28-12-2016	
4	CUST0004	Daniel Wagner	Daniel Wagner	Male	59	Erode	Savings	12-09-2024	
5	CUST0005	Cristian Santos	Cristian Santos	Male	58	Salem	Current	13-01-2022	
6	CUST0006	Connie Lawrence	Connie Lawrence	Male	56	Madurai	Current	02-08-2018	
7	CUST0007	Abigail Shaffer	Abigail Shaffer	Male	19	Tirunelveli	Current	02-10-2021	
8	CUST0008	Gina Moore	Gina Moore	Male	21	Salem	Savings	06-12-2021	
9	CUST0009	Gabrielle Davis	Gabrielle Davis	Female	68	Chennai	Savings	22-09-2021	
10	CUST0010	Ryan Munoz	Ryan Munoz	Male	39	Tirunelveli	Current	13-08-2018	
11	CUST0011	Monica Herrera	Monica Herrera	Male	33	Tirunelveli	Savings	09-01-2023	
12	CUST0012	Jamie Arnold	Jamie Arnold	Male	26	Chennai	Savings	14-03-2016	
13	CUST0013	Lisa Hensley	Lisa Hensley	Male	68	Chennai	Current	03-12-2019	
14	CUST0014	Michele Williams	Michele Williams	Male	54	Chennai	Savings	03-12-2022	
15	CUST0015	Dylan Miller	Dylan Miller	Male	31	Erode	Savings	09-05-2023	
16	CUST0016	Brian Ramirez	Brian Ramirez	Male	22	Tirunelveli	Current	03-12-2019	
17	CUST0017	Holly Wood	Holly Wood	Female	66	Salem	Current	16-04-2019	
18	CUST0018	Derek Zuniga	Derek Zuniga	Male	53	Madurai	Current	04-01-2020	
19	CUST0019	Lisa Jackson	Lisa Jackson	Female	31	Madurai	Savings	15-01-2025	

Customer Info Transaction Data

### 4. Trim Extra Spaces

- Add a helper column: **=TRIM(A2)** (for text columns like Name or Branch).
- Copy and paste as values.
- Replace the old column if needed.

**Description:** *Removed unwanted spaces from text fields.*

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

Transaction\_Type

Transaction ID	Customer ID	Transaction Date	Transaction Month	Transaction Typ	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	April	Debit	₹ 67,338.88	Debit Card
TXN0002	CUST0727	2025-05-12	May	Debit	₹ 42,642.29	Credit Card
TXN0003	CUST0519	2024-10-21	October	Debit	₹ 35,156.63	Debit Card
TXN0004	CUST0414	2024-12-16	December	Credit	₹ 32,413.47	UPI
TXN0005	CUST0139	2025-04-13	April	Debit	₹ 59,590.78	Cash
TXN0006	CUST0800	2024-12-14	December	Debit	₹ 2,908.58	UPI
TXN0007	CUST0872	2025-05-20	May	Debit	₹ 30,829.48	Credit Card
TXN0008	CUST0537	2025-01-30	January	Debit	₹ 98,771.37	Debit Card
TXN0009	CUST0901	2024-06-12	June	Debit	₹ 61,813.99	UPI
TXN0010	CUST0583	2024-12-21	December	Credit	₹ 99,020.84	Net Banking
TXN0011	CUST0030	2025-05-18	May	Credit	₹ 44,499.91	Net Banking
TXN0012				Credit	₹ 15,008.94	Net Banking
TXN0013				Debit	₹ 4,965.32	Debit Card
TXN0014				Credit	₹ 81,908.11	Credit Card
TXN0015				Debit	₹ 20,368.68	Debit Card
TXN0016				Debit	₹ 37,695.17	Credit Card
TXN0017				Debit	₹ 75,894.51	Cash
TXN0018				Credit	₹ 85,350.03	Debit Card

Find and Replace

Find what: debit

Replace with: Debit

Replace All

Count: 1001

Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

Transaction\_Type

Transaction ID	Customer ID	Transaction Date	Transaction Month	Transaction Typ	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	April	Debit	₹ 67,338.88	Debit Card
TXN0002	CUST0727	2025-05-12	May	Debit	₹ 42,642.29	Credit Card
TXN0003	CUST0519	2024-10-21	October	Debit	₹ 35,156.63	Debit Card
TXN0004	CUST0414	2024-12-16	December	Credit	₹ 32,413.47	UPI
TXN0005	CUST0139	2025-04-13	April	Debit	₹ 59,590.78	Cash
TXN0006	CUST0800	2024-12-14	December	Debit	₹ 2,908.58	UPI
TXN0007	CUST0872	2025-05-20	May	Debit	₹ 30,829.48	Credit Card
TXN0008	CUST0537	2025-01-30	January	Debit	₹ 98,771.37	Debit Card
TXN0009	CUST0901	2024-06-12	June	Debit	₹ 61,813.99	UPI
TXN0010	CUST0583	2024-12-21	December	Credit	₹ 99,020.84	Net Banking
TXN0011	CUST0030	2025-05-18	May	Credit	₹ 44,499.91	Net Banking
TXN0012				Credit	₹ 15,008.94	Net Banking
TXN0013				Debit	₹ 4,965.32	Debit Card
TXN0014				Credit	₹ 81,908.11	Credit Card
TXN0015				Debit	₹ 20,368.68	Debit Card
TXN0016				Debit	₹ 37,695.17	Credit Card
TXN0017				Debit	₹ 75,894.51	Cash
TXN0018				Credit	₹ 85,350.03	Debit Card

Find and Replace

Find what: credit

Replace with: Credit

Replace All

Count: 1001



Banking\_Mini\_Project - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DESIGN

Clipboard Font Alignment Number Styles Cells Editing

DATE : X ✓ ✖ =TEXT([@Transaction\_Date]), "mmmm")

Transaction ID	Customer ID	Transaction Date	Transaction Month	Transaction Type	Amount	Mode of Payment
TXN0001	CUST0319	2025-04-23	=TEXT([@Transaction_Date]), "mmmm")	Debit	₹ 67,338.88	Debit Card
TXN0002	CUST0727	2025-05-12	May	Debit	₹ 42,642.29	Credit Card
TXN0003	CUST0519	2024-10-21	October	Debit	₹ 35,156.63	Debit Card
TXN0004	CUST0414	2024-12-16	December	Credit	₹ 32,413.47	UPI
TXN0005	CUST0139	2025-04-13	April	Credit	₹ 59,590.78	Cash
TXN0006	CUST0800	2024-12-14	December	Debit	₹ 2,908.58	UPI
TXN0007	CUST0872	2025-05-20	May	Credit	₹ 30,829.48	Credit Card
TXN0008	CUST0537	2025-01-30	January	Debit	₹ 98,771.37	Debit Card
TXN0009	CUST0901	2024-06-12	June	Debit	₹ 61,813.99	UPI
TXN0010	CUST0583	2024-12-21	December	Credit	₹ 99,020.84	Net Banking
TXN0011	CUST0030	2025-05-18	May	Credit	₹ 44,499.91	Net Banking
TXN0012	CUST0178	2024-08-02	August	Credit	₹ 15,008.94	Net Banking
TXN0013	CUST0198	2024-11-27	November	Debit	₹ 4,965.32	Debit Card
TXN0014	CUST0897	2024-08-13	August	Credit	₹ 81,908.11	Credit Card
TXN0015	CUST0853	2024-09-07	September	Debit	₹ 20,368.68	Debit Card
TXN0016	CUST0206	2024-07-09	July	Debit	₹ 37,695.17	Credit Card
TXN0017	CUST0858	2024-12-26	December	Debit	₹ 75,894.51	Cash
TXN0018	CUST0060	2025-02-14	February	Credit	₹ 85,350.03	Debit Card

Customer\_Info Transaction\_Data

## 5. Create New Column: Transaction Month

Formula:

=TEXT([@TransactionDate], "mmmm")

(If not in a table, use =TEXT(A2, "mmmm"))

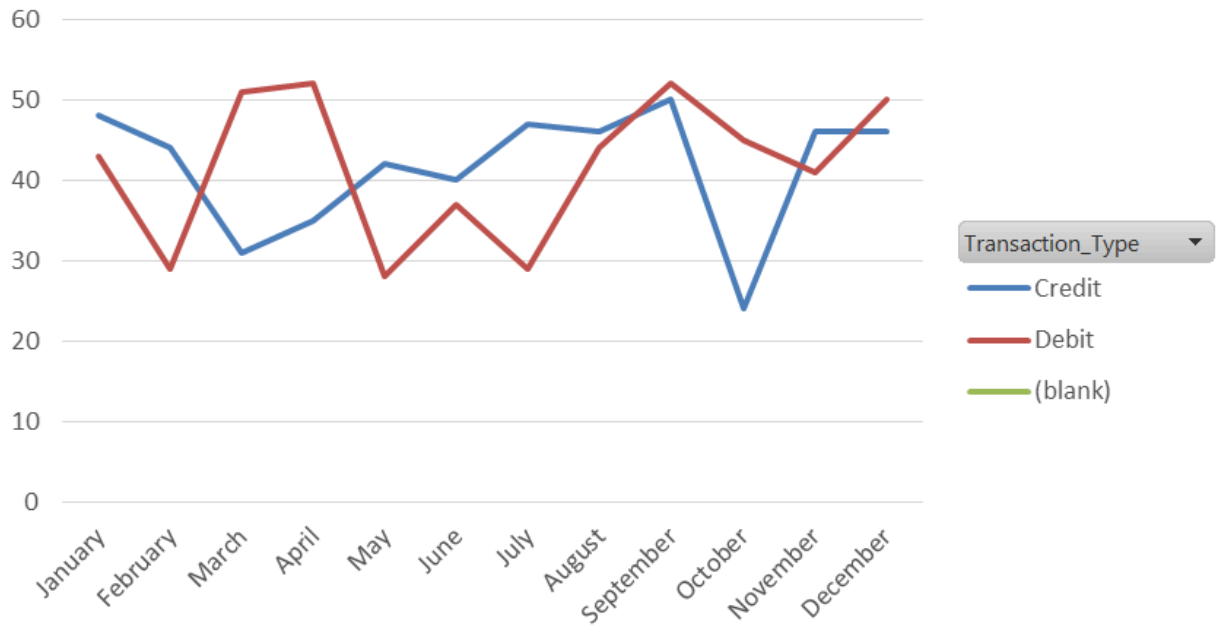
**Description:** Created a column to extract the month from transaction dates.

# Types of Chart Dashboard

Mode\_of\_Payment ▼

Count of Amount

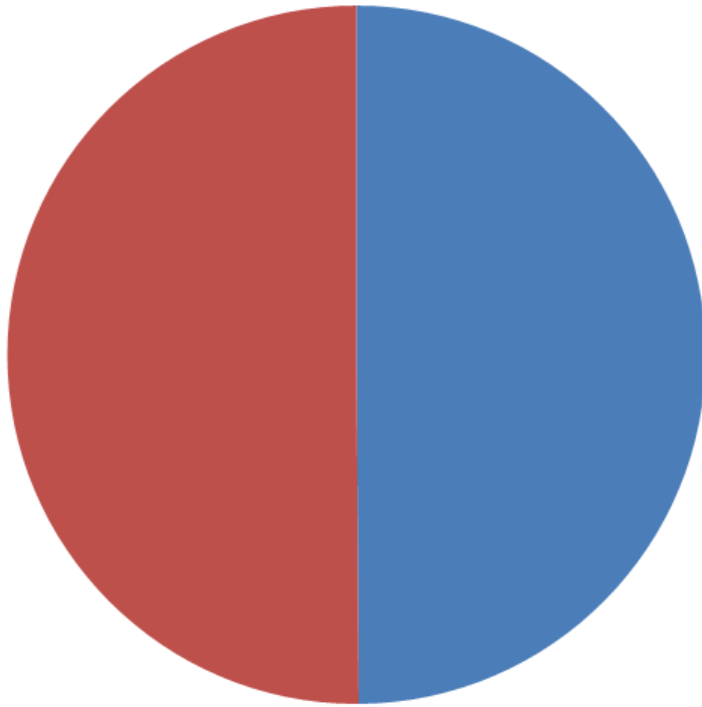
## Monthly Transaction Trend"



Transaction Month ▼

Count of Amount

## Transaction Amount by Type



Transaction\_Type ▼

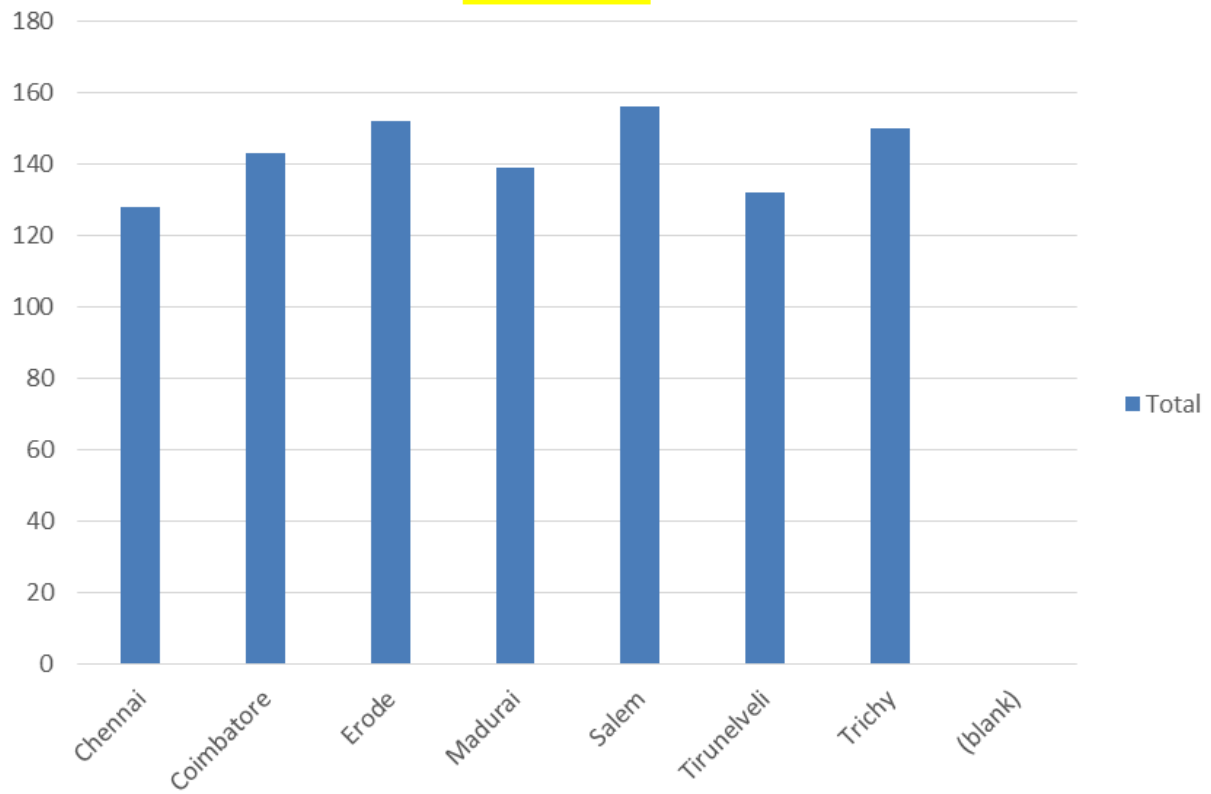
■ Credit

■ Debit

■ (blank)

Count of Amount

## City Chart



City ▼

Count of Amount

## Payment Mode Chart

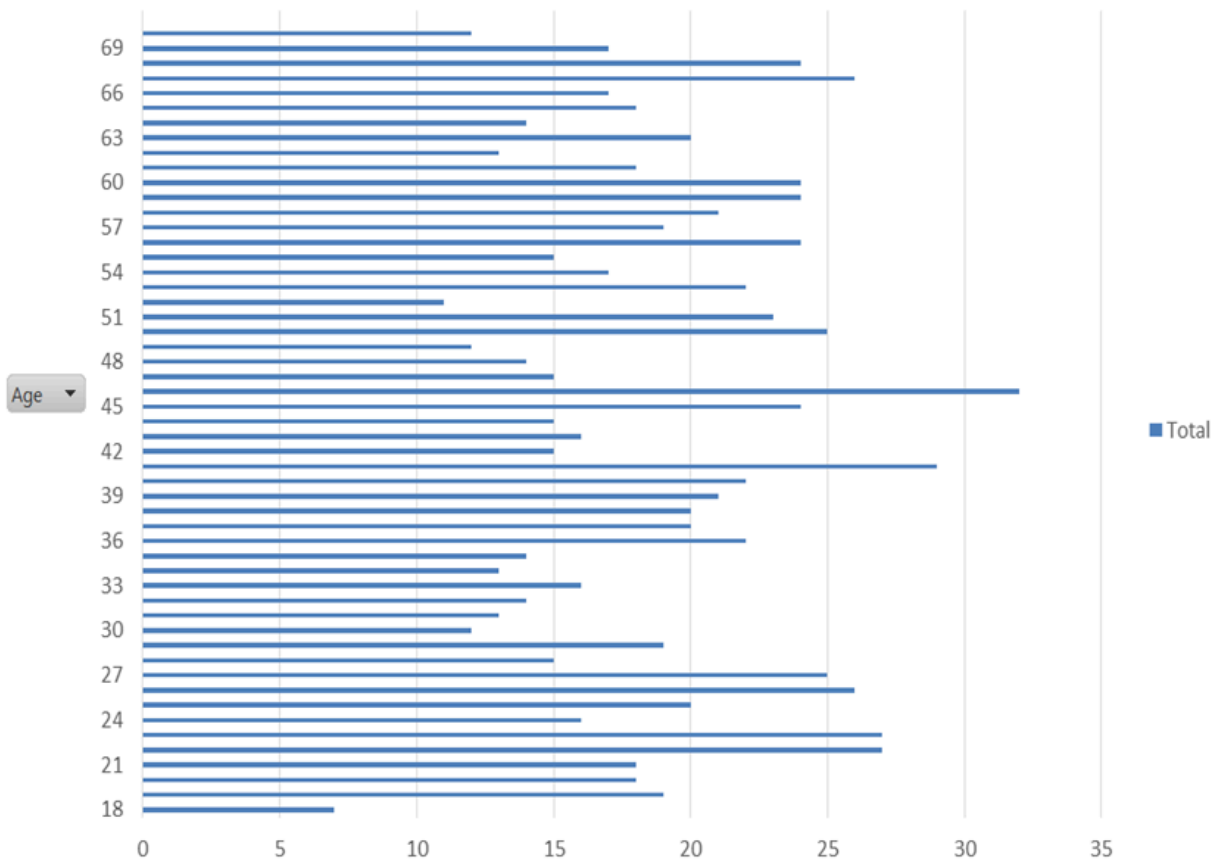


Mode\_of\_Payment ▼

- Cash
- Credit Card
- Debit Card
- Net Banking
- UPI
- (blank)

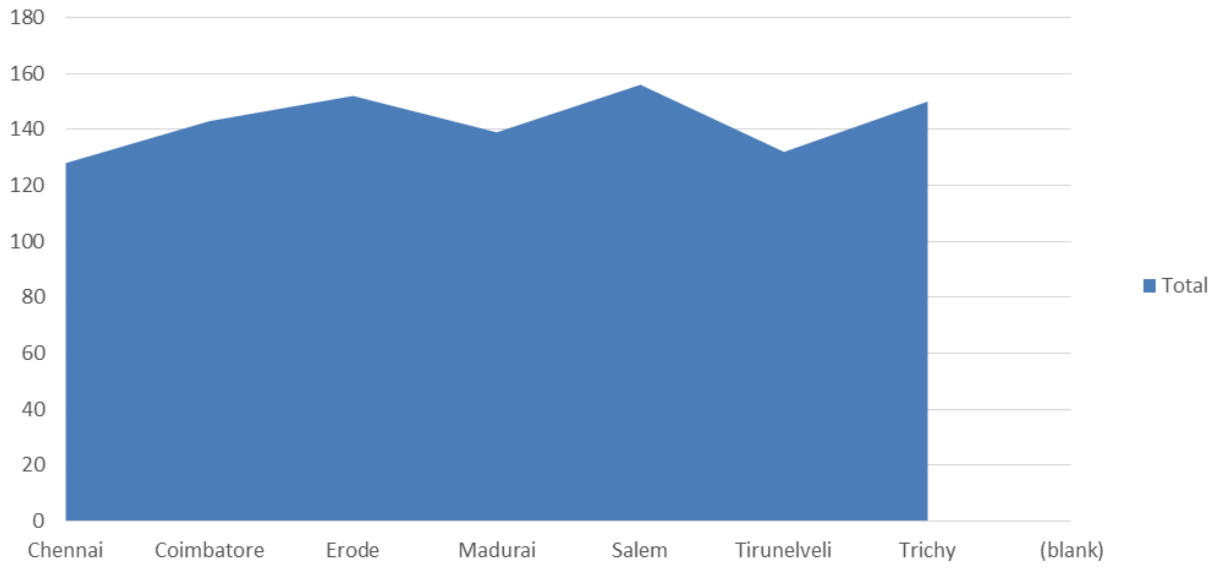
Count of Amount

### Total Balance by Age Group



Count of Amount

## Account Type vs Average Balance



City ▼



# Data Visualization

Mini Project Data Cleaning

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Text Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning AI Insights

Query Settings

Query: = Table.Distinct(#"Changed Type", {"Customer\_ID"})

Customer_ID	Name	Trim Function	Gender	Age	City	Account
1	CUST0001	Allison Hill	Male		23	Coimbatore
2	CUST0002	Noah Rhodes	Male		60	Erode
3	CUST0003	Angie Henderson	Female		31	Salem
4	CUST0004	Daniel Wagner	Male		59	Erode
5	CUST0005	Cristian Santos	Male		58	Salem
6	CUST0006	Connie Lawrence	Male		56	Madurai
7	CUST0007	Abigail Shaffer	Male		19	Tirunelveli
8	CUST0008	Gina Moore	Male		21	Salem
9	CUST0009	Gabrielle Davis	Female		68	Chennai
10	CUST0010	Ryan Munoz	Male		39	Tirunelveli
11	CUST0011	Monica Herrera	Male		33	Tirunelveli
12	CUST0012	Jamie Arnold	Male		26	Chennai
13	CUST0013	Lisa Hensley	Male		68	Chennai
14	CUST0014	Michele Williams	Male		54	Chennai
15	CUST0015	Dylan Miller	Male		31	Erode
16	CUST0016	Brian Ramirez	Male		22	Tirunelveli
17	CUST0017	Holly Wood	Female		66	Salem
18	CUST0018	Derek Zuniga	Male		53	Madurai
19	CUST0019	Lisa Jackson	Female		31	Erode
20	CUST0020	Carla Gray	Female		55	Coimbatore
21	CUST0021	Margaret Hawkins DDS	Male		31	Tirunelveli
22	CUST0022	Patty Perez	Male		70	Salem
23	CUST0023	Ethan Adams	Female		32	Trichy

10 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 03:46

Mini Project Data Cleaning

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Text Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning AI Insights

Query Settings

Query: = Table.Distinct(#"Changed Type", {"Customer\_ID"})



Transaction_ID	Customer_ID	Transaction_Date	Transaction Month	Transaction_Type	Amount	Mode
1	TXN0001	CUST0319	23-04-2025	April	Debit	67338.88
2	TXN0002	CUST0727	12-05-2025	May	Debit	42642.29
3	TXN0003	CUST0519	21-10-2024	October	Debit	35156.63
4	TXN0004	CUST0414	16-12-2024	December	Credit	32413.47
5	TXN0005	CUST0139	13-04-2025	April	Credit	59590.78
6	TXN0006	CUST0800	14-12-2024	December	Debit	2908.58
7	TXN0007	CUST0872	20-05-2025	May	Credit	30829.48
8	TXN0008	CUST0537	30-01-2025	January	Debit	98771.37
9	TXN0009	CUST0901	12-06-2024	June	Debit	61813.99
10	TXN0010	CUST0583	21-12-2024	December	Credit	99020.84
11	TXN0011	CUST0030	18-05-2025	May	Credit	44499.91
12	TXN0012	CUST0178	02-08-2024	August	Credit	15008.94
13	TXN0013	CUST0198	27-11-2024	November	Debit	4965.32
14	TXN0014	CUST0897	13-08-2024	August	Credit	81908.11
15	TXN0015	CUST0853	07-09-2024	September	Debit	20368.68
16	TXN0016	CUST0206	09-07-2024	July	Debit	37695.17
17	TXN0017	CUST0858	26-12-2024	December	Debit	75894.51
18	TXN0018	CUST0060	14-02-2025	February	Debit	85350.03
19	TXN0019	CUST0256	27-09-2024	September	Credit	11680.99
20	TXN0020	CUST0034	31-08-2024	August	Credit	5926.53
21	TXN0021	CUST0468	07-08-2024	August	Credit	94919.62
22	TXN0022	CUST0052	21-08-2024	August	Credit	92709.6
23	TXN0023	CUST0941	10-08-2024	August	Credit	86940.86

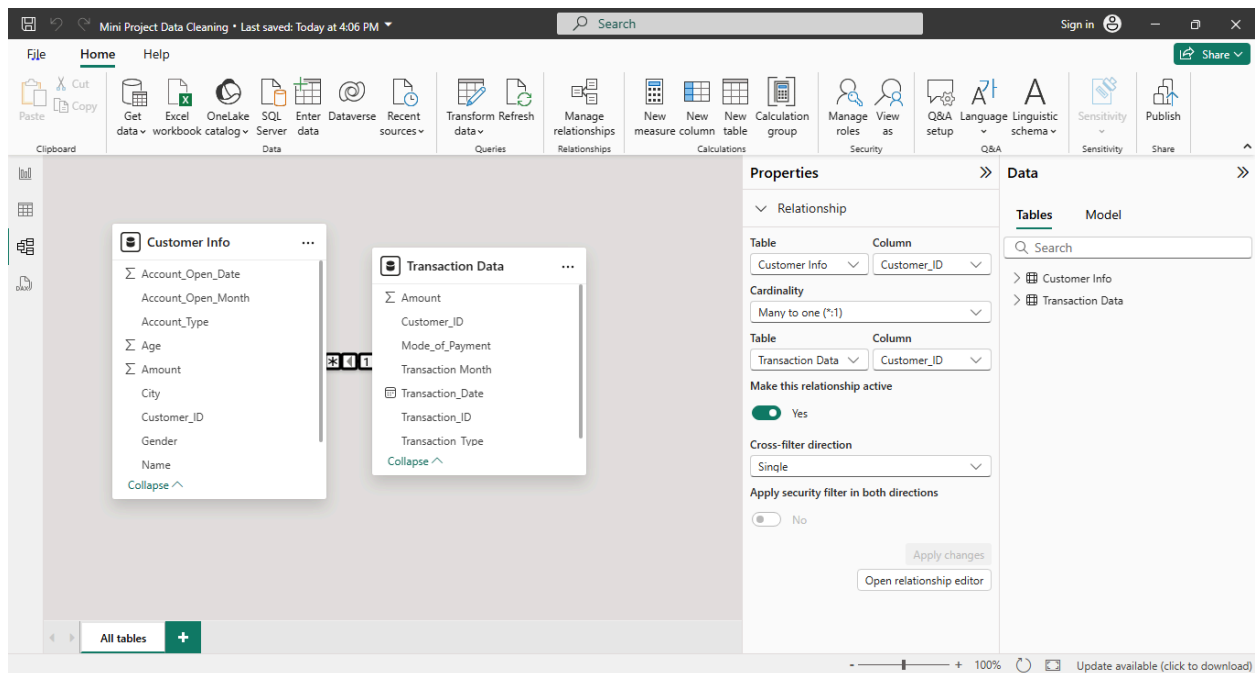
7 COLUMNS, 622 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 03:46

## 🧹 Data Cleaning – Removing Nulls (Excel & Power BI)

### 📄 Description:

In this step, we focused on **removing rows with null or blank values** to ensure clean and accurate data.

-  **In Excel**, we manually filtered and deleted rows where key columns (like **Customer\_ID**, **Amount**, etc.) were blank. This avoids errors during analysis and improves data quality.
-  **In Power BI**, using **Transform Data (Power Query Editor)**, we applied the “**Remove Rows → Remove Blank Rows**” option or filtered out **null** values from important columns using column filters. This ensures only complete and valid records are loaded into the data model.



## Customer\_ID (Model View Description)

### Description:

**Customer\_ID** is the **primary key** in the **Customer Info** table and acts as a **foreign key** in the **Transaction Data** table. It is used to **create a one-to-many relationship**, allowing Power BI to link customer details (like name, gender, city, etc.) with their corresponding transaction records.

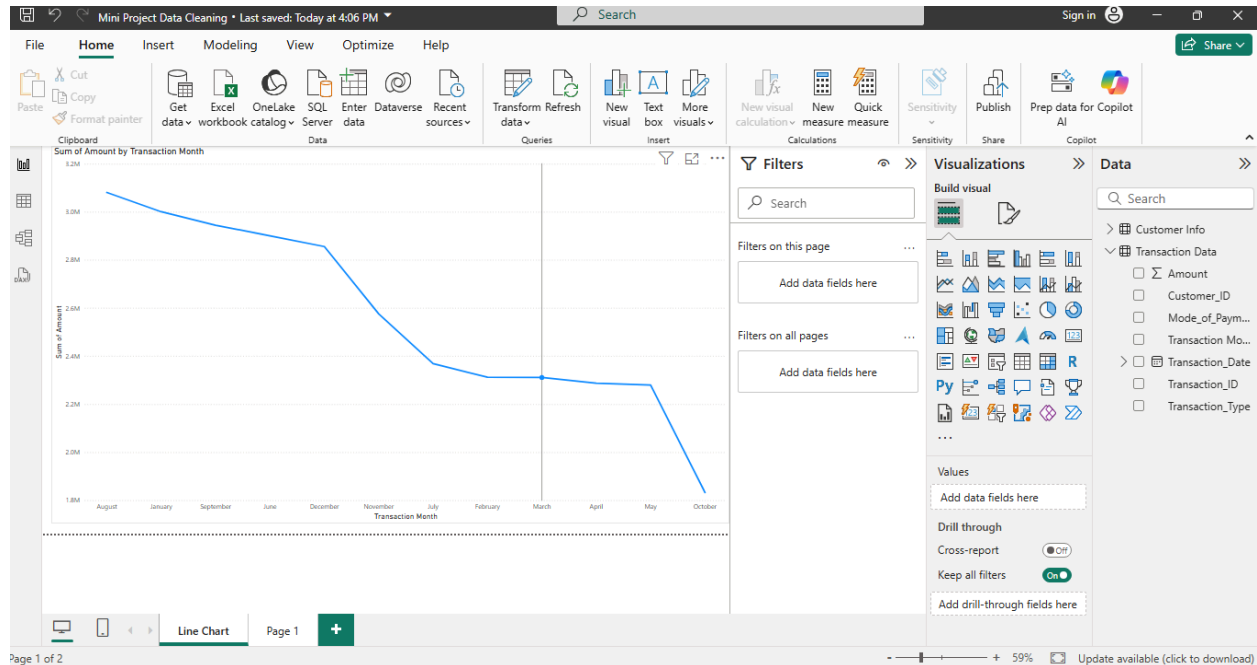
### Purpose in Data Model:

- Enables **data integration** across both tables.
- Allows you to perform **cross-table analysis** (e.g., transactions by customer age, city, or gender).

- Ensures **data integrity** by joining customer profiles with their transaction history.


## Relationship Type:

- One-to-many:
  - **One** customer can have **many** transactions.



## Chart 1: Monthly Transaction Amount – Line Chart

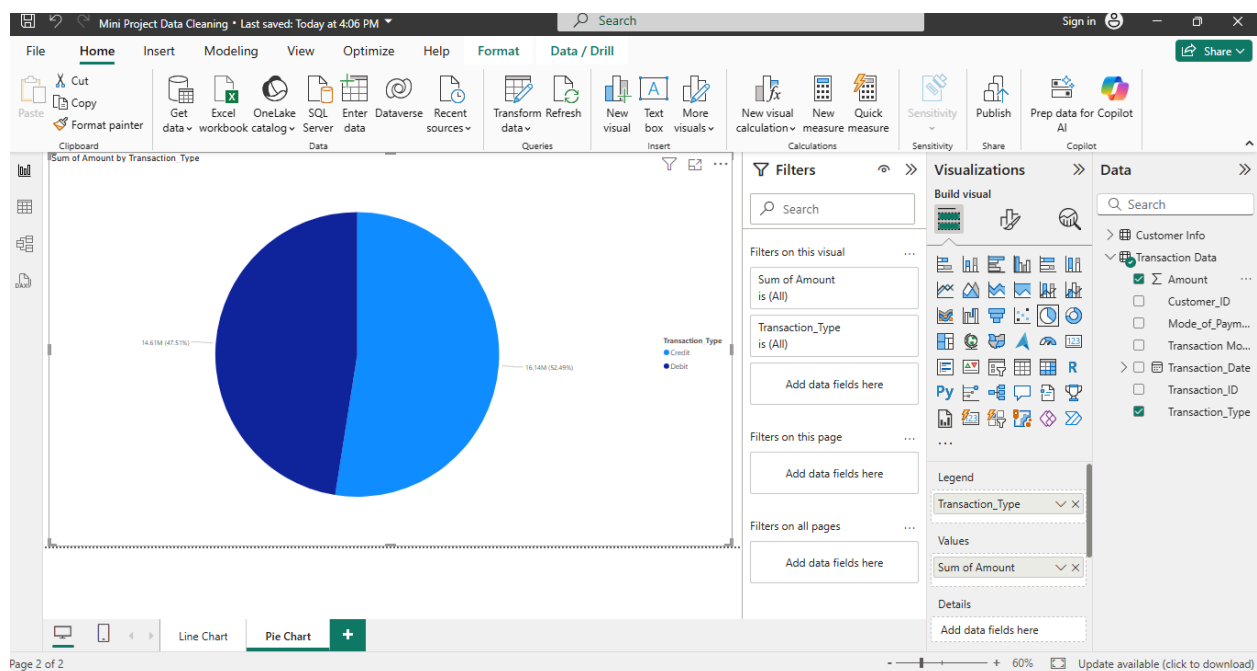
1. In Report View → Click **Line Chart** icon (under Visualizations pane).
2. Drag chart onto blank canvas.
3. From **TRANSACTION DATA** table:
  - Drag **Transaction Month** → **Axis**
  - Drag **Amount** → **Values** (aggregation will be Sum automatically)

 **Description:** This shows total amount transacted each month.

## Monthly Transaction Amount"

### ✓ Description (Write this under chart or in notes):

1. This chart displays the **total amount** of all transactions across each month.
2. It helps identify **peak and low months** for transaction volume.
3. Data is grouped using the **Transaction Month** column.
4. The line visually shows **trends** in activity over time.
5. This is useful for **monthly performance analysis**.



### 📁 Add Fields:

From the **TRANSACTION DATA** table:

- Drag **Transaction Type** → **Legend**
- Drag **Amount** → **Values**  
→ It should show **Sum of Amount**

---

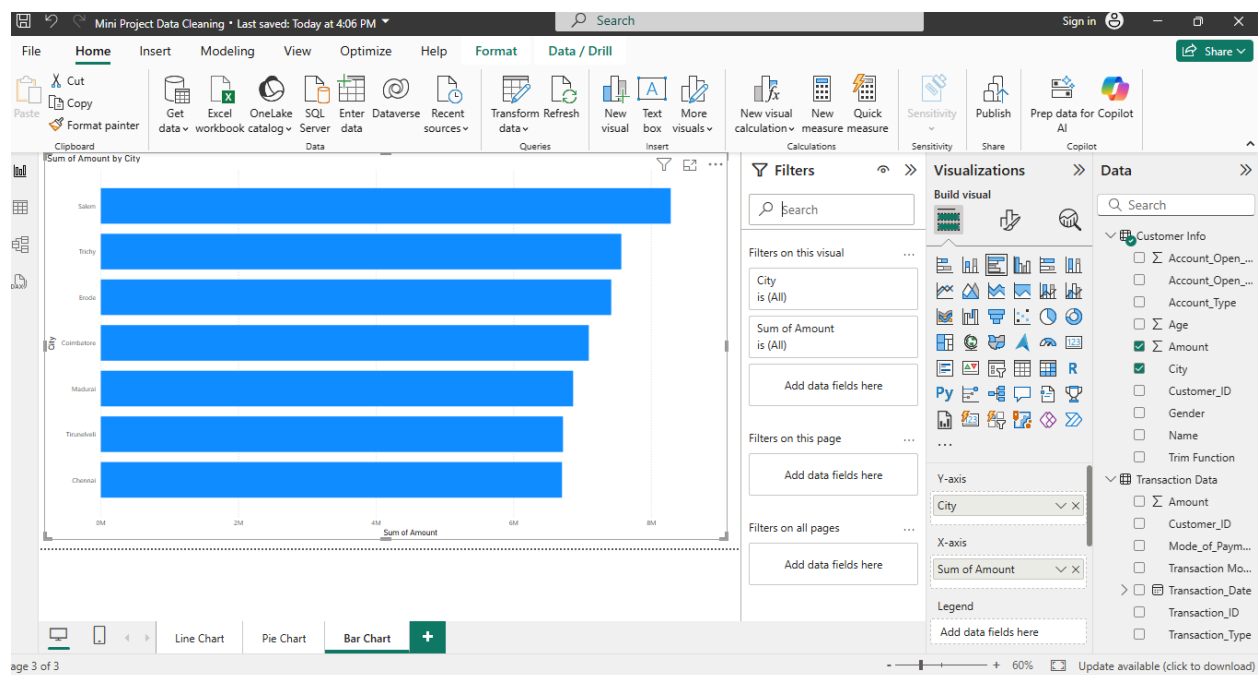
## Chart Title:

"Transaction Type Split – Credit vs Debit"

---

## Description (Write this in notes or below chart):

1. This pie chart shows the **proportion** of total transaction amount by type.
2. Typically, it splits between **Credit (Deposits)** and **Debit (Withdrawals)**.
3. It provides a quick view of which type dominates – incoming or outgoing.
4. Helps analyze **customer behavior** and cash flow.
5. Useful for identifying if the bank has more deposits or withdrawals.



## Branch-wise Transaction Amount

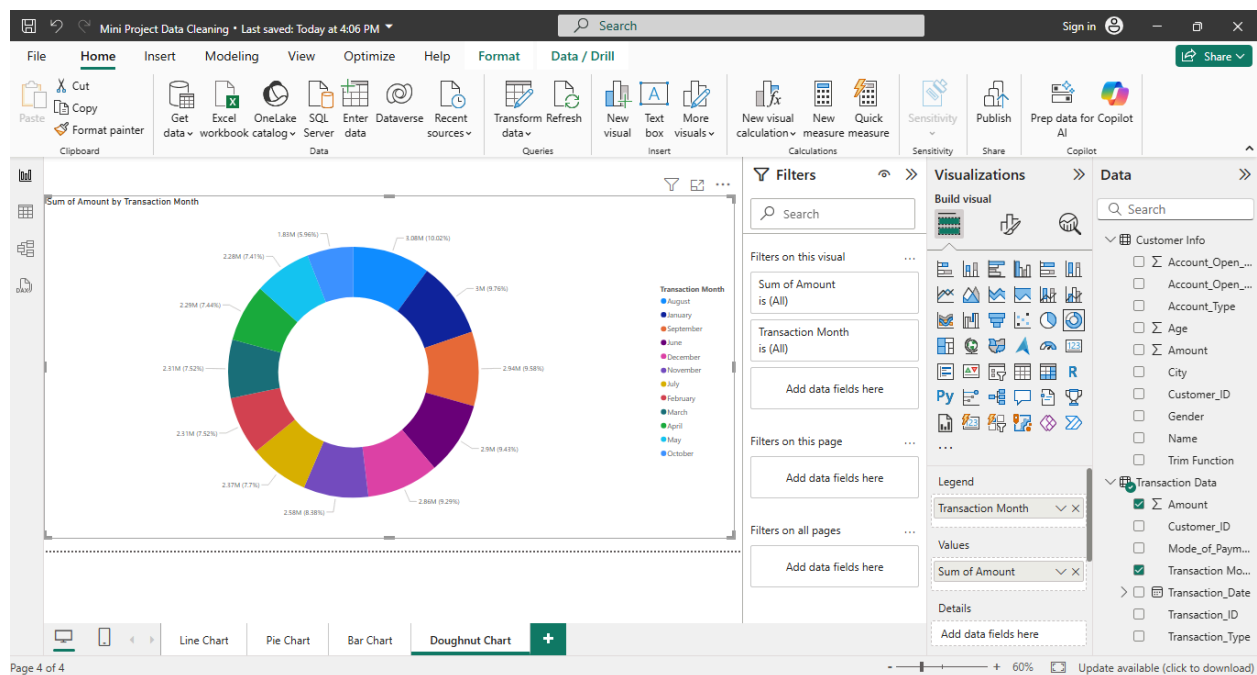
**Visual Type:** Clustered Bar Chart

**Fields Used:**

- **Axis:** City (as branch location from Customer Info)
- **Values:** Sum of Amount (from Transaction Data)

#### **Description:**

This bar chart shows the **total transaction value handled by each branch (city)**. It helps understand which branches have the highest monetary transaction activity.



## Monthly Transaction Amount Distribution

**Visual Type:** Doughnut Chart

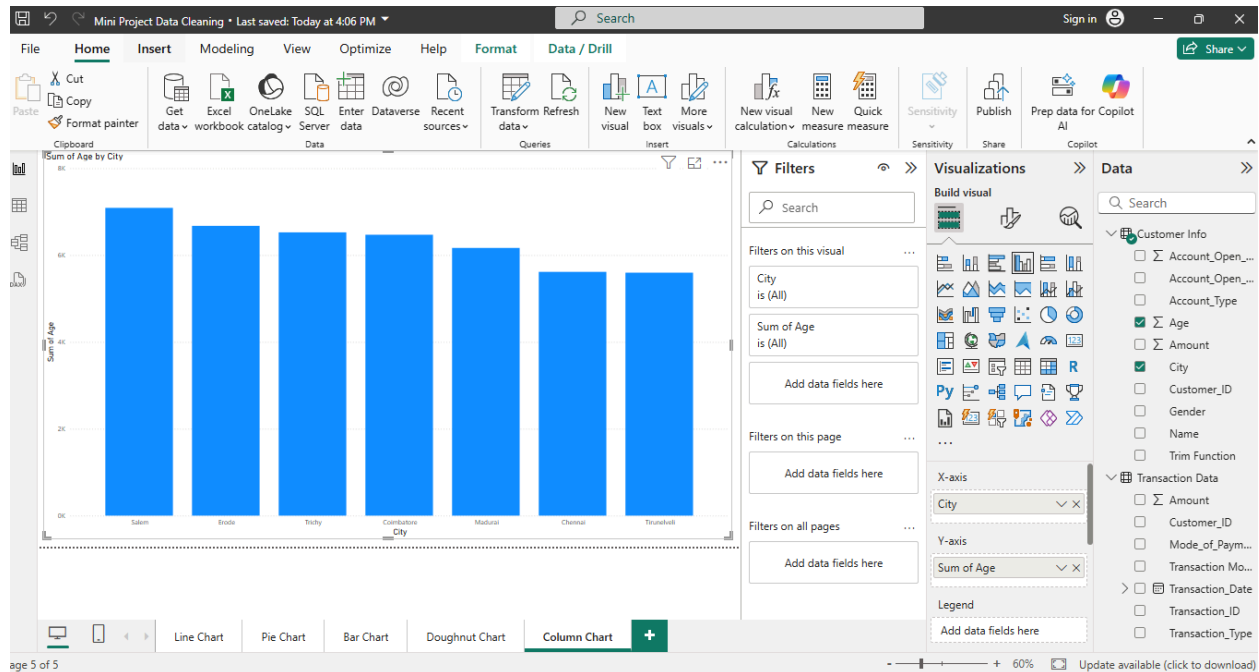
**Fields Used:**

- **Legend:** Transaction Month
- **Values:** Sum of Amount

#### **Description:**

This chart displays the **total transaction amount for each month** in the form of a doughnut

chart. It helps visualize which months had **higher transaction volume** and identifies **peak activity periods**. This can support decisions like staffing, promotions, or load balancing during high-transaction months.



## Age-wise Customer Count by City

**Visual Type:** Clustered Column Chart

**Fields Used:**

- **Axis:** Age (from Customer Info)
- **Legend (Optional):** City (to group by city)
- **Values:** Count of Customer\_ID or Name

### Description:

This chart displays the **number of customers in each age group** across different **cities**. It helps identify which **age segments** are most active or present in specific locations. This information is useful for customer targeting, marketing, or location-based services.