

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.)
-

The screenshot shows the Microsoft Excel interface with the 'Banking_Mini_Project - Excel' workbook open. The 'Customer_Info' sheet is active, displaying a table of customer data with columns: Customer_ID, Name, Gender, Age, City, Account_Type, and Account_Open_Date. The 'DATA' tab is selected, and the 'Remove Duplicates' dialog box is open over the data range A2:G20. The dialog box includes options to 'Select All', 'Unselect All', and 'My data has headers'. It lists the columns being checked: Customer_ID, Name, Gender, Age, City, and Account_Type. The 'OK' button is visible at the bottom right of the dialog.

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

The screenshot shows a Microsoft Excel spreadsheet titled "Banking_Mini_Project - Excel". The "DATA" tab is selected. The spreadsheet contains a table of transaction data with columns: Transaction_ID, Customer_ID, Transaction_Date, Transaction_Type, Amount, and Mode_of_Payment. The "Mode of Payment" column has a dropdown arrow indicating it is sorted. The "Remove Duplicates" dialog box is open, showing the "Columns" section with all checkboxes checked for Transaction_ID, Customer_ID, Transaction_Date, Transaction_Type, Amount, and Mode_of_Payment. The "OK" button is visible at the bottom right of the dialog.

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

拍照 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

PivotTable Recommended PivotTables Tables Pictures Online Pictures SmartArt Shapes Apps for Office - Apps Recommended Charts Charts PivotChart Power View Reports Sparklines Filters Slicer Timeline Hyperlink Text Box Header & Footer Text Symbols

A1 Customer_ID

Customer_Info

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	Ivan Johnson	Female	31	Erode	Savings	2025-01-15

Customer_Info Transaction_Data

POINT

AVERAGE: 22031.6415 COUNT: 7007 SUM: 44063283

100%

Banking_Mini_Project - Excel

File Home Insert Page Layout Formulas Data Review View

PivotTable Recommended PivotTables Tables Pictures Online Pictures SmartArt Shapes Apps for Office - Apps Recommended Charts Charts PivotChart Power View Reports Sparklines Filters Slicer Timeline Hyperlink Text Box Header & Footer Text Symbols

A1 Transaction_ID

Transaction_Data

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

Customer_Info Transaction_Data

POINT

AVERAGE: 48146.9094 COUNT: 6006 SUM: 96293818.8

100%

💡 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.
-

Customer_Info Table Data:

	A	B	C	D	E	F	G
1	Customer_ID	Name	Gender	Age	City	Account_Type	Account_Open_Dat
2	CUST001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06
3	CUST002	Noah Rhodes	Male	60	Erode	Current	2019-12-13
4	CUST003	Angie Henderson	Female	31	Salem	Savings	2016-12-28
5	CUST004	Daniel Wagner	Male	59	Erode	Savings	2024-09-12
6	CUST005	Cristian Santos	Male	58	Salem	Current	2022-01-13
7	CUST006	Connie Lawrence	Male	56	Madurai	Current	2018-08-02
8	CUST007	Abigail Shaffer	Male	19	Tirunelveli	Current	2021-10-02
9	CUST008	Gina Moore	Male	21	Salem	Savings	2021-12-06
10	CUST009	Gabrielle Davis	Female	68	Chennai	Savings	2021-09-22
11	CUST010	Ryan Munoz	Male	39	Tirunelveli	Current	2018-08-13
12	CUST011	Monica Herrera	Male	33	Tirunelveli	Savings	2023-01-09
13	CUST012	Jamie Arnold	Male	26	Chennai	Savings	2016-03-14
14	CUST013	Lisa Hensley	Male	68	Chennai	Current	2019-12-03
15	CUST014	Michele Williams	Male	54	Chennai	Savings	2022-12-03
16	CUST015	Dylan Miller	Male	31	Erode	Savings	2023-05-09
17	CUST016	Brian Ramirez	Male	22	Tirunelveli	Current	2019-12-03
18	CUST017	Holly Wood	Female	66	Salem	Current	2019-04-16
19	CUST018	Derek Zuniga	Male	53	Madurai	Current	2020-01-04

Transaction_Data Table Data:

	A	B	C	D	E	F	G	H	I	J	K
1	Transaction_ID	Customer_ID	Transaction_Date	Transaction_Type	Amount	Mode_of_Payment					
2	TXN0001	CUST0319	2025-04-23	Debit	67338.88	Debit Card					
3	TXN0002	CUST0727	2025-05-12	Debit	42642.29	Credit Card					
4	TXN0003	CUST0519	2024-10-21	Debit	35156.63	Debit Card					
5	TXN0004	CUST0414	2024-12-16	Credit	32413.47	UPI					
6	TXN0005	CUST0139	2025-04-13	Credit	59590.78	Cash					
7	TXN0006	CUST0800	2024-12-14	Debit	2908.58	UPI					
8	TXN0007	CUST0872	2025-05-20	Credit	30829.48	Credit Card					
9	TXN0008	CUST0537	2025-01-30	Debit	98771.37	Debit Card					
10	TXN0009	CUST0901	2024-06-12	Debit	61813.99	UPI					
11	TXN0010	CUST0583	2024-12-21	Credit	99020.84	Net Banking					
12	TXN0011	CUST0030	2025-05-18	Credit	44499.91	Net Banking					
13	TXN0012	CUST0178	2024-08-02	Credit	15008.94	Net Banking					
14	TXN0013	CUST0198	2024-11-27	Debit	4965.32	Debit Card					
15	TXN0014	CUST0897	2024-08-13	Credit	81908.11	Credit Card					
16	TXN0015	CUST0853	2024-09-07	Debit	20368.68	Debit Card					
17	TXN0016	CUST0206	2024-07-09	Debit	37695.17	Credit Card					
18	TXN0017	CUST0858	2024-12-26	Debit	75894.51	Cash					
19	TXN0018	CUST0060	2025-02-14	Credit	85350.03	Debit Card					

Screenshot of Microsoft Excel showing the 'Customer_Info' sheet. The 'Account_Open_Date' column is selected, and a date picker dialog box is open over the cells. The dialog shows the current date as '14-03-2012'. The 'Category' dropdown is set to 'Date', and the 'Type' dropdown is also set to 'Date'. The 'Format Cells' dialog box is visible at the top, and the 'Number' tab is selected.

	A	B	C	D	E	F	G	H	I	J
	Customer_ID	Name	Gender	Age	City	Account_Type	Account_Open_Date			
1	CUST0001	Allison Hill	Male	23	Coimbatore	Savings	2023-10-06			
2	CUST0002	Noah Hart					2019-12-13			
3	CUST0003	Angie H					2016-12-28			
4	CUST0004	Daniel V					2024-09-12			
5	CUST0005	Cristian					2022-01-13			
6	CUST0006	Connie L					2018-08-02			
7	CUST0007	Abigail S					2021-10-02			
8	CUST0008	Gina Mc					2021-12-06			
9	CUST0009	Gabrielle					2021-09-22			
10	CUST0010	Ryan M					2018-08-13			
11	CUST0011	Monica					2023-01-09			
12	CUST0012	Jamie A					2016-03-14			
13	CUST0013	Lisa He					2019-12-03			
14	CUST0014	Michele					2022-12-03			
15	CUST0015	Dylan M					2023-05-09			
16	CUST0016	Brian R					2019-12-03			
17	CUST0017	Holly W					2019-04-16			
18	CUST0018	Derek Z					2020-01-04			
19	CUST0019	Taylor T					2025-01-15			

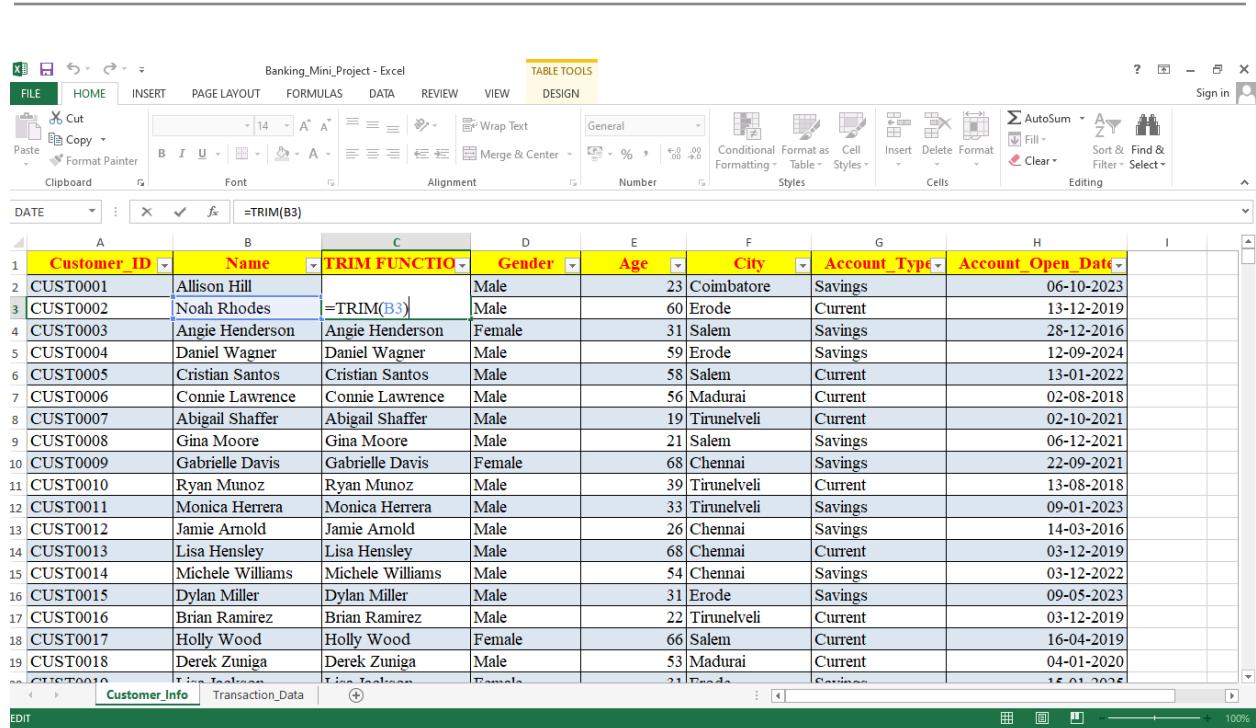
	A	B	C	D	E	F	G	H	I
1	Transaction ID	Customer ID	Transaction Date	Transaction Type	Amount	Mode of Payment			
2	TXN0001	CUST0319	2025-04-23	Debit	67338.88	Debit Card			
3	TXN0002				42642.29	Credit Card			
4	TXN0003				35156.63	Debit Card			
5	TXN0004				32413.47	UPI			
6	TXN0005				59590.78	Cash			
7	TXN0006				2908.58	UPI			
8	TXN0007				30829.48	Credit Card			
9	TXN0008				98771.37	Debit Card			
10	TXN0009				61813.99	UPI			
11	TXN0010				99020.84	Net Banking			
12	TXN0011				44499.91	Net Banking			
13	TXN0012				15008.94	Net Banking			
14	TXN0013				4965.32	Debit Card			
15	TXN0014				81908.11	Credit Card			
16	TXN0015				20368.68	Debit Card			
17	TXN0016				37695.17	Credit Card			
18	TXN0017				75894.51	Cash			
19	TXN0018				85350.03	Debit Card			

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.



The screenshot shows an Excel spreadsheet titled "Banking_Mini_Project - Excel". The ribbon at the top has tabs for FILE, HOME, INSERT, PAGE LAYOUT, FORMULAS, DATA, REVIEW, VIEW, and DESIGN. The DESIGN tab is currently selected. The main area displays a table with columns: Customer_ID, Name, TRIM FUNCTION, Gender, Age, City, Account_Type, and Account_Open_Date. Row 3 contains the formula =TRIM(B3) in the TRIM FUNCTION column. The data includes various customer entries with their details like name, gender, age, city, account type, and open date. The table is styled with yellow headers and black text. The bottom of the screen shows the status bar with "Customer_Info" and "Transaction_Data" tabs, and a zoom level of 100%.

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

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

TABLE TOOLS

DESIGN

Transaction_Type

1	Transaction_ID	Customer_ID	Transaction_Date	Transaction_Month	Transaction_Type	Amount	Mode_of_Payment
2	TXN0001	CUST0319	2025-04-23	April	Debit	₹ 67,338.88	Debit Card
3	TXN0002	CUST0727	2025-05-12	May	Debit	₹ 42,642.29	Credit Card
4	TXN0003	CUST0519	2024-10-21	October	Debit	₹ 35,156.63	Debit Card
5	TXN0004	CUST0414	2024-12-16	December	Credit	₹ 32,413.47	UPI
6	TXN0005	CUST0139	2025-04-13	Microsoft Excel		₹ 59,590.78	Cash
7	TXN0006	CUST0800	2024-12-14			₹ 2,908.58	UPI
8	TXN0007	CUST0872	2025-05-20			₹ 30,829.48	Credit Card
9	TXN0008	CUST0537	2025-01-30			₹ 98,771.37	Debit Card
10	TXN0009	CUST0901	2024-06-12	June	Debit	₹ 61,813.99	UPI
11	TXN0010	CUST0583	2024-12-21	December	Credit	₹ 99,020.84	Net Banking
12	TXN0011	CUST0030	2025-05-18	May	Credit	₹ 44,499.91	Net Banking
13	TXN0012				Credit	₹ 15,008.94	Net Banking
14	TXN0013				Debit	₹ 4,965.32	Debit Card
15	TXN0014				Credit	₹ 81,908.11	Credit Card
16	TXN0015				Debit	₹ 20,368.68	Debit Card
17	TXN0016				Debit	₹ 37,695.17	Credit Card
18	TXN0017				Debit	₹ 75,894.51	Cash
19	TXN0018				Credit	₹ 85,350.03	Debit Card

All done. We made 501 replacements.

OK

Find and Replace

Find: debit

Replace with: Credit

Replace All

Replace

Find All

Find Next

Close

READY

COUNT: 1001

100%

Banking_Mini_Project - Excel

TABLE TOOLS

DESIGN

Transaction_Type

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

All done. We made 499 replacements.

OK

Find and Replace

Find: credit

Replace with: Credit

Replace All

Replace

Find All

Find Next

Close

READY

COUNT: 1001

100%

The screenshot shows an Excel spreadsheet titled "Banking_Mini_Project - Excel". The ribbon at the top has tabs for FILE, HOME, INSERT, PAGE LAYOUT, FORMULAS, DATA, REVIEW, and VIEW. The DESIGN tab is selected. The main area displays a table with the following columns and data:

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

拍照 5. Create New Column: Transaction Month

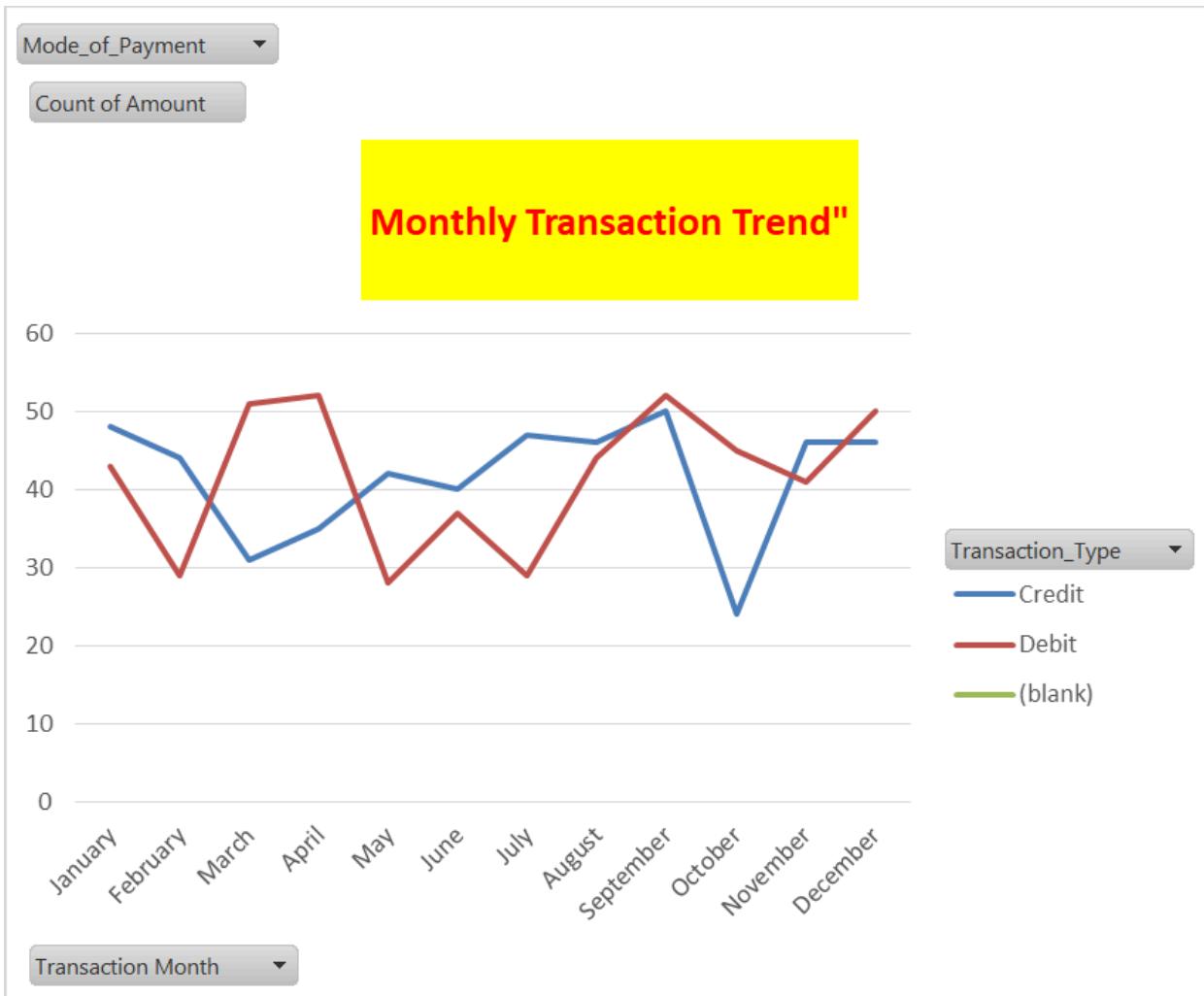
Formula:

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

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

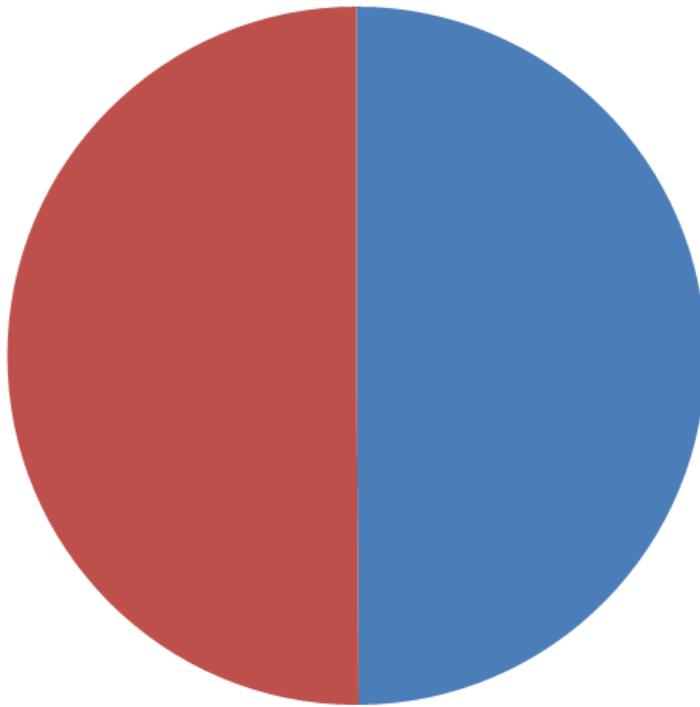
Description: Created a column to extract the month from transaction dates.

Types of Chart Dashboard



Count of Amount

Transaction Amount by Type



Transaction_Type ▾

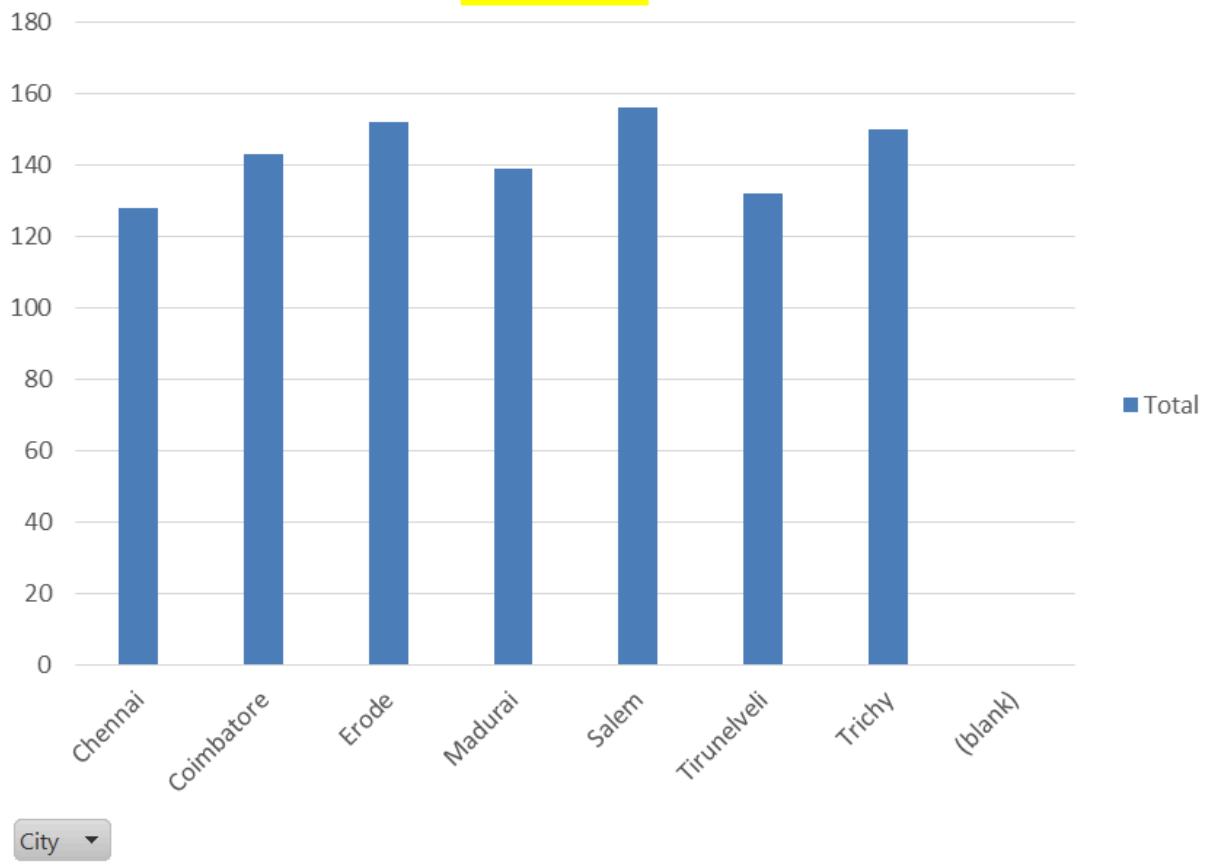
■ Credit

■ Debit

■ (blank)

Count of Amount

City Chart



City ▾

Count of Amount

Payment Mode Chart

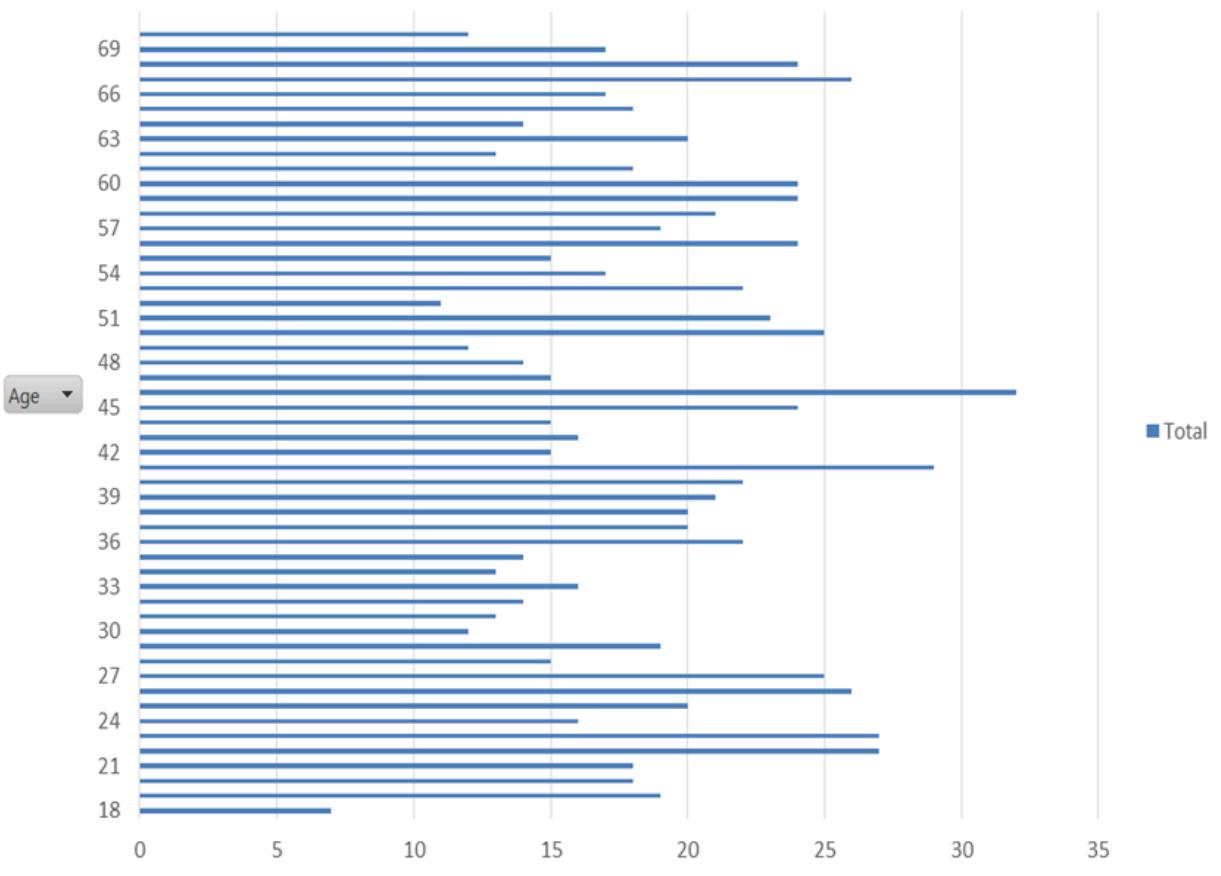


Mode_of_Payment ▾

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

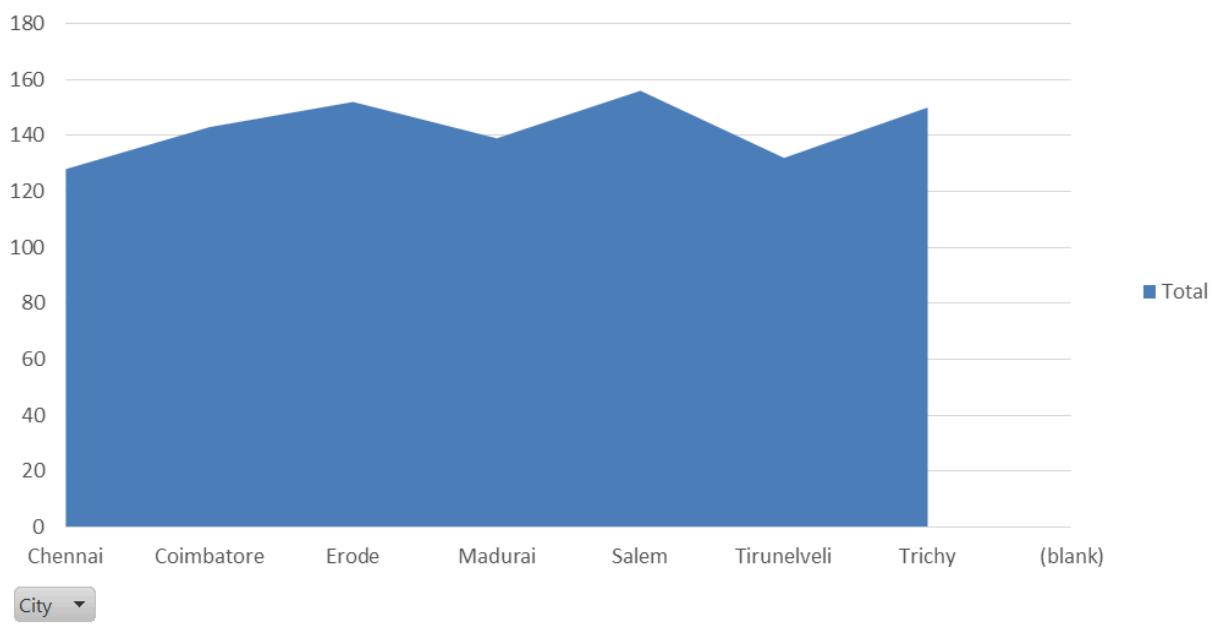
Count of Amount

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 Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Query Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Use First Row as Headers Data Type: Text Transform Merge Queries Text Analytics Append Queries Vision Combine Files Azure Machine Learning Combine AI Insights

Queries

= Table.Distinct(#"Changed Type", {"Customer_ID"})

	Customer_ID	Name	Trim Function	Gender	Age	City	Account
1	CUST0001	Allison Hill	Allison Hill	Male	23	Coimbatore	Savings
2	CUST0002	Noah Rhodes	Noah Rhodes	Male	60	Erode	Current
3	CUST0003	Angie Henderson	Angie Henderson	Female	31	Salem	Savings
4	CUST0004	Daniel Wagner	Daniel Wagner	Male	59	Erode	Savings
5	CUST0005	Cristian Santos	Cristian Santos	Male	58	Salem	Current
6	CUST0006	Connie Lawrence	Connie Lawrence	Male	56	Madurai	Current
7	CUST0007	Abigail Shaffer	Abigail Shaffer	Male	19	Tirunelveli	Current
8	CUST0008	Gina Moore	Gina Moore	Male	21	Salem	Savings
9	CUST0009	Gabrielle Davis	Gabrielle Davis	Female	68	Chennai	Savings
10	CUST0010	Ryan Munoz	Ryan Munoz	Male	39	Tirunelveli	Current
11	CUST0011	Monica Herrera	Monica Herrera	Male	33	Tirunelveli	Savings
12	CUST0012	Jamie Arnold	Jamie Arnold	Male	26	Chennai	Savings
13	CUST0013	Lisa Hensley	Lisa Hensley	Male	68	Chennai	Current
14	CUST0014	Michele Williams	Michele Williams	Male	54	Chennai	Savings
15	CUST0015	Dylan Miller	Dylan Miller	Male	31	Erode	Savings
16	CUST0016	Brian Ramirez	Brian Ramirez	Male	22	Tirunelveli	Current
17	CUST0017	Holly Wood	Holly Wood	Female	66	Salem	Current
18	CUST0018	Derek Zuniga	Derek Zuniga	Male	53	Madurai	Current
19	CUST0019	Lisa Jackson	Lisa Jackson	Female	31	Erode	Savings
20	CUST0020	Carla Gray	Carla Gray	Female	55	Coimbatore	Current
21	CUST0021	Margaret Hawkins DDS	Margaret Hawkins DDS	Male	31	Tirunelveli	Current
22	CUST0022	Patty Perez	Patty Perez	Male	70	Salem	Current
23	CUST0023	Ethan Adams	Ethan Adams	Female	32	Trichy	Savings
24							

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 Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Query Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Use First Row as Headers Data Type: Text Transform Merge Queries Text Analytics Append Queries Vision Combine Files Azure Machine Learning Combine AI Insights

Queries

= 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	Debit Ca
2	TXN0002	CUST0727	12-05-2025	May	Debit	42642.29	Credit Cr
3	TXN0003	CUST0519	21-10-2024	October	Debit	35156.63	Debit Ca
4	TXN0004	CUST0414	16-12-2024	December	Credit	32413.47	UPI
5	TXN0005	CUST0139	13-04-2025	April	Credit	59590.78	Cash
6	TXN0006	CUST0800	14-12-2024	December	Debit	2908.58	UPI
7	TXN0007	CUST0872	20-05-2025	May	Credit	30829.48	Credit Cr
8	TXN0008	CUST0537	30-01-2025	January	Debit	98771.37	Debit Ca
9	TXN0009	CUST0901	12-06-2024	June	Debit	61813.99	UPI
10	TXN0010	CUST0583	21-12-2024	December	Credit	99020.84	Net Bank
11	TXN0011	CUST0030	18-05-2025	May	Credit	44499.91	Net Bank
12	TXN0012	CUST0178	02-08-2024	August	Credit	15008.94	Net Bank
13	TXN0013	CUST0198	27-11-2024	November	Debit	4965.32	Debit Ca
14	TXN0014	CUST0897	13-08-2024	August	Credit	81908.11	Credit Cr
15	TXN0015	CUST0853	07-09-2024	September	Debit	20368.68	Debit Ca
16	TXN0016	CUST0206	09-07-2024	July	Debit	37695.17	Credit Cr
17	TXN0017	CUST0858	26-12-2024	December	Debit	75894.51	Cash
18	TXN0018	CUST0060	14-02-2025	February	Credit	85350.03	Debit Ca
19	TXN0019	CUST0256	27-09-2024	September	Debit	11680.99	Cash
20	TXN0020	CUST0094	31-08-2024	August	Credit	5926.53	Debit Ca
21	TXN0021	CUST0468	07-08-2024	August	Credit	94919.62	Cash
22	TXN0022	CUST0052	21-08-2024	August	Credit	92709.6	Cash
23	TXN0023	CUST0941	10-08-2024	August	Credit	86940.86	Debit Ca
24							

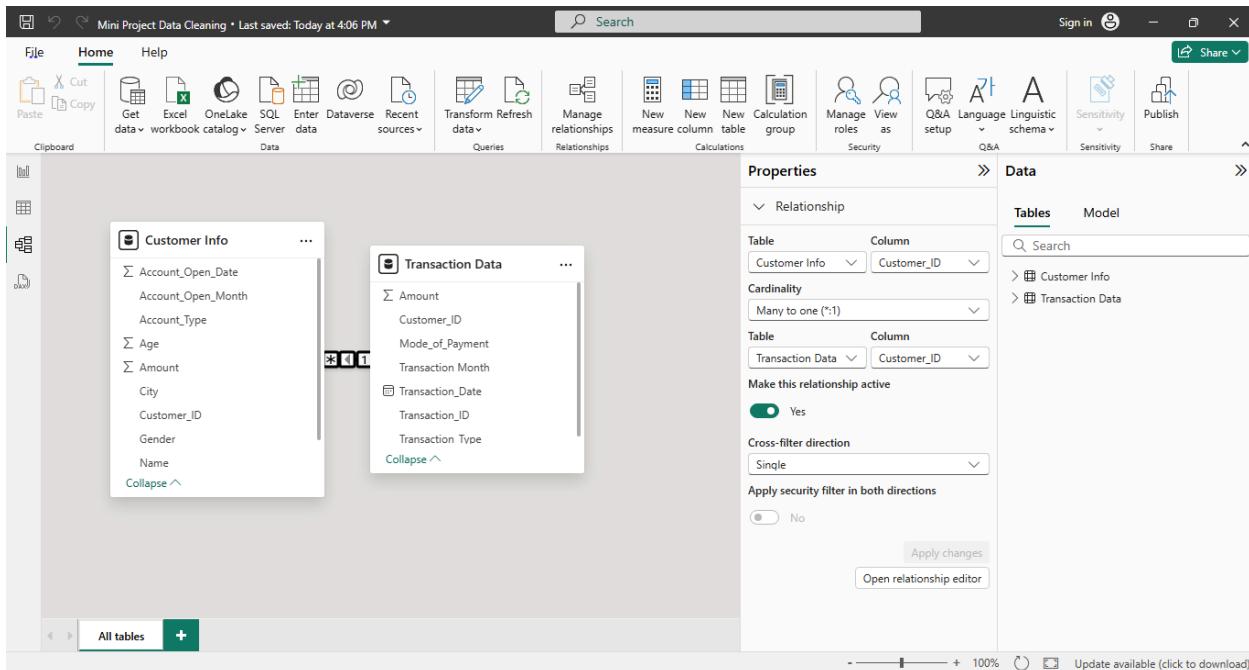
7 COLUMNS, 622 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 03:46

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.**

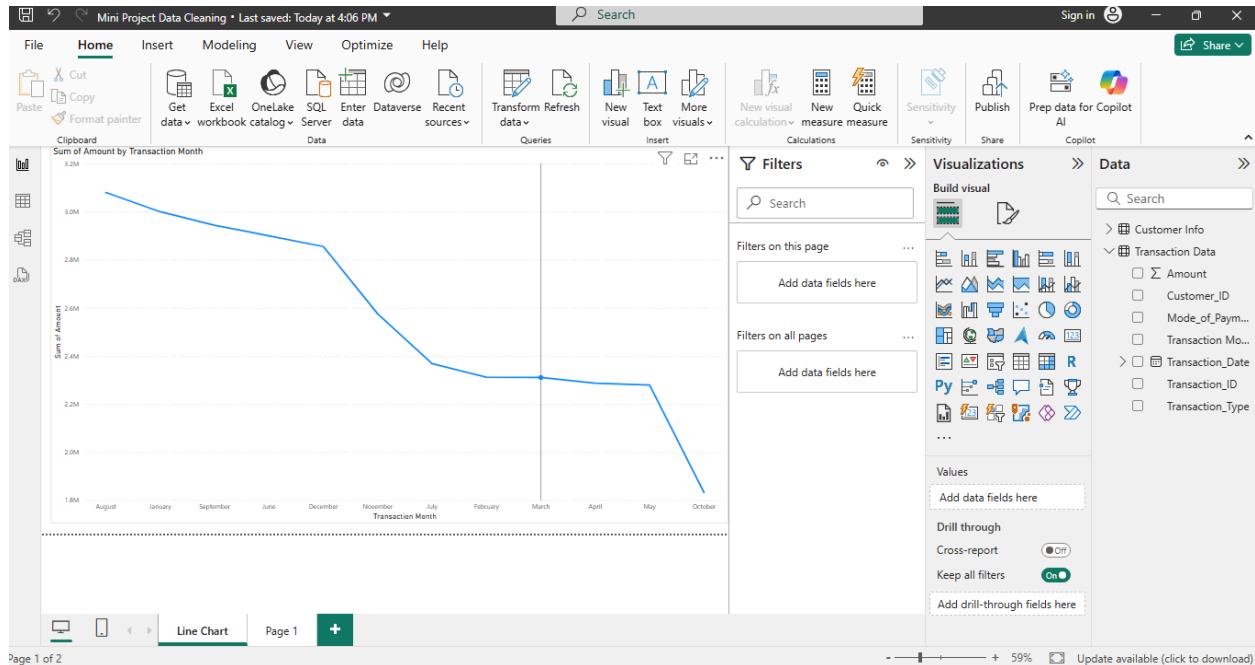


Chart 1: Monthly Transaction Amount – Line Chart

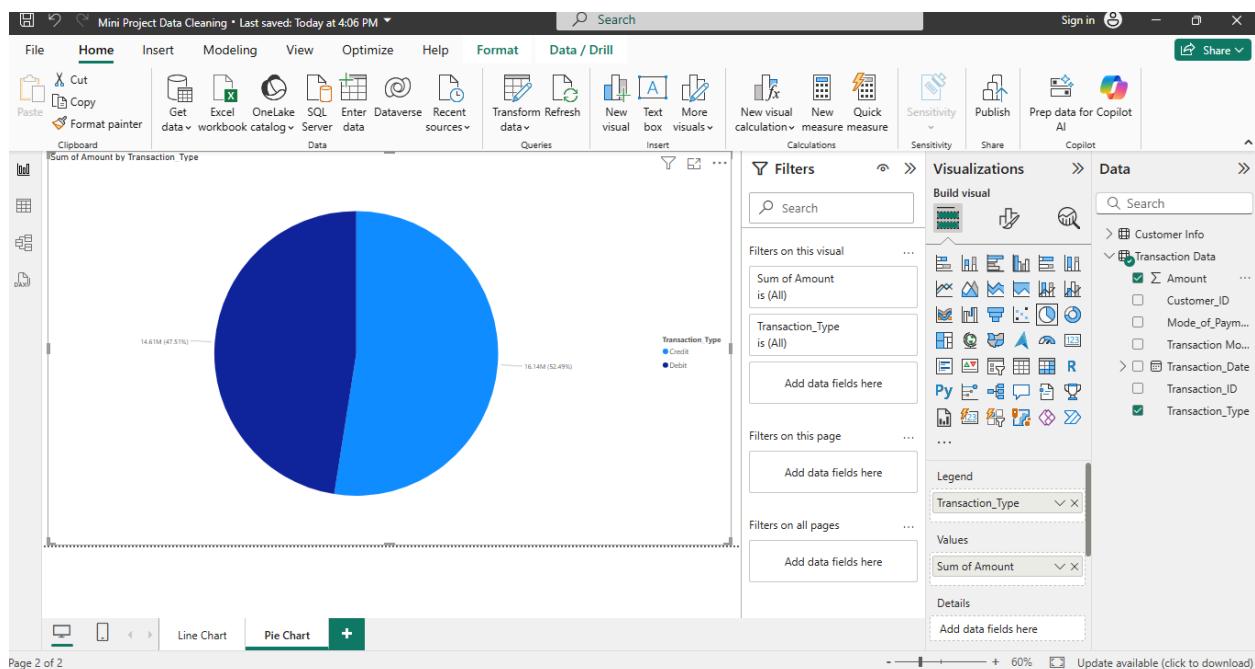
- In Report View → Click **Line Chart** icon (under Visualizations pane).
- Drag chart onto blank canvas.
- From **TRANSACTION DATA** table:
 - Drag **Transaction Month** → **Axis**
 - Drag **Amount** → **Values** (aggregation will be Sum automatically)

 **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:

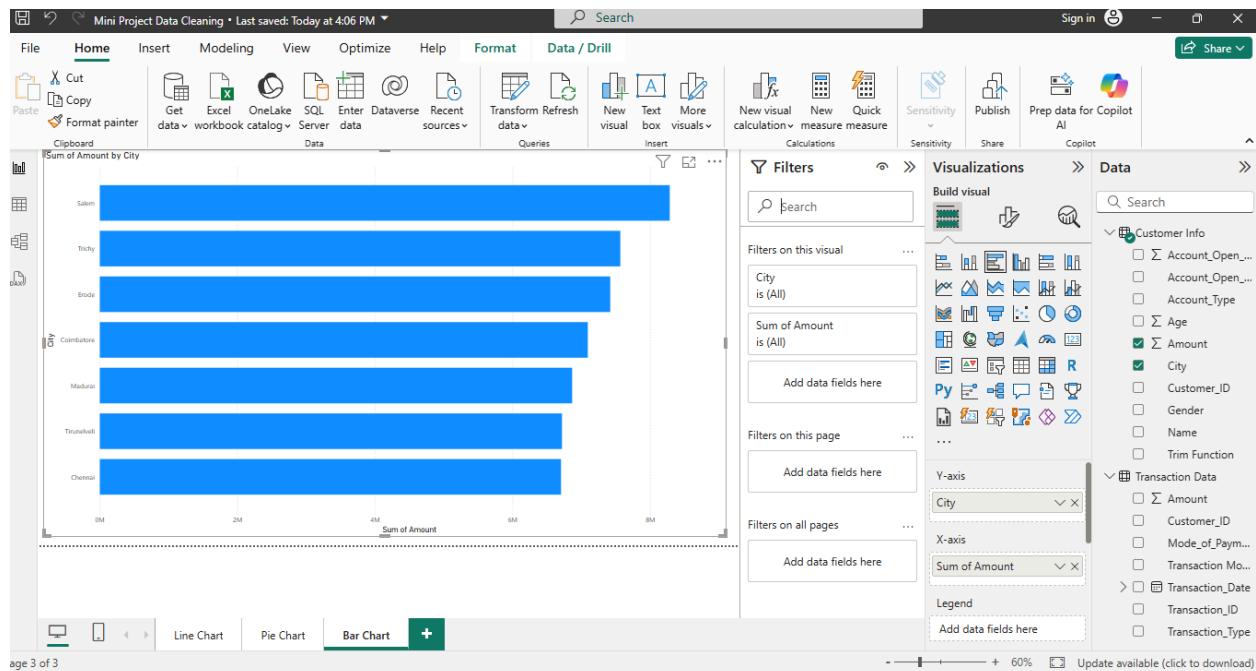
- Drag **Transaction Type** → **Legend**
- Drag **Amount** → **Values**
→ It should show **Sum of Amount**

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

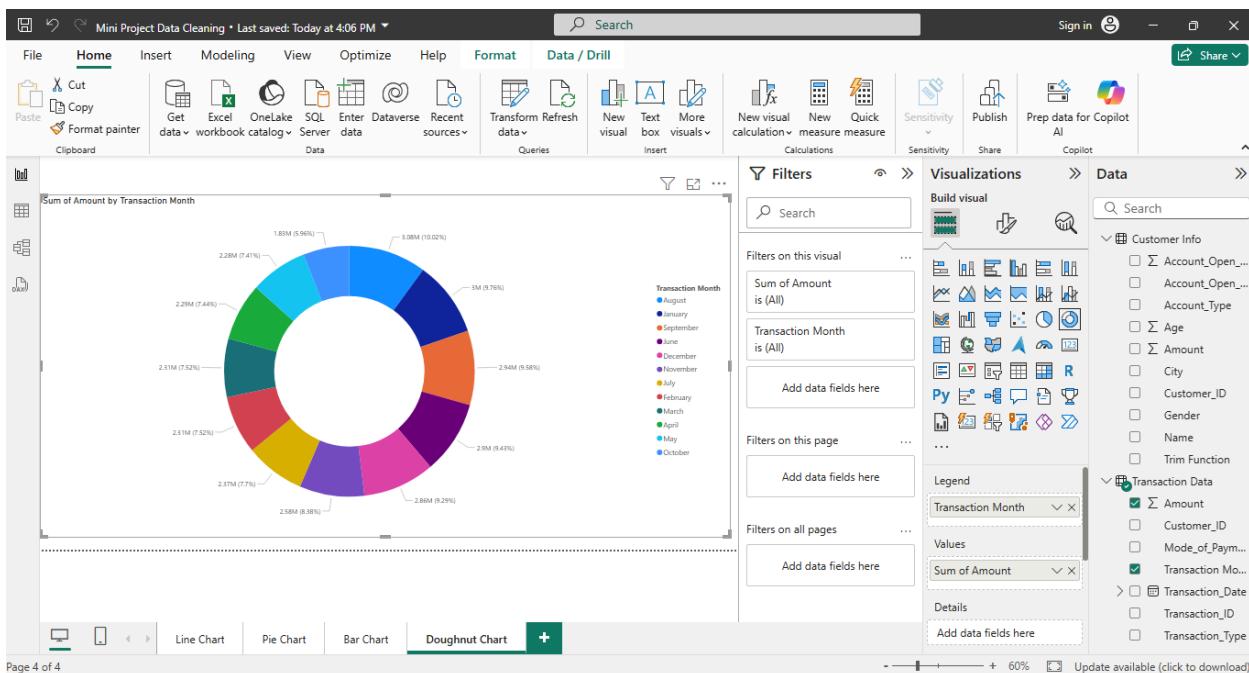
Fields Used:

- **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:

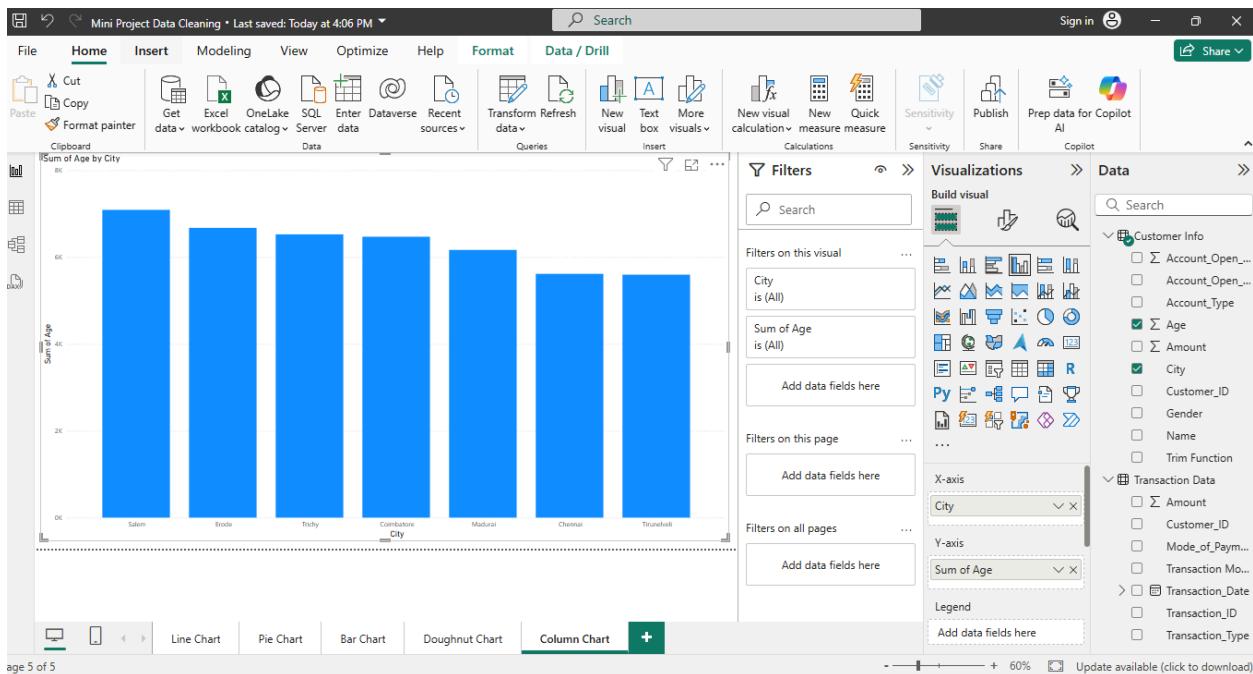
- **Legend:** **Transaction Month**

- **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.