**Project Title: Bank Loan Performance Analysis**

The dataset "bank loan.xlsx" contains two sheets:

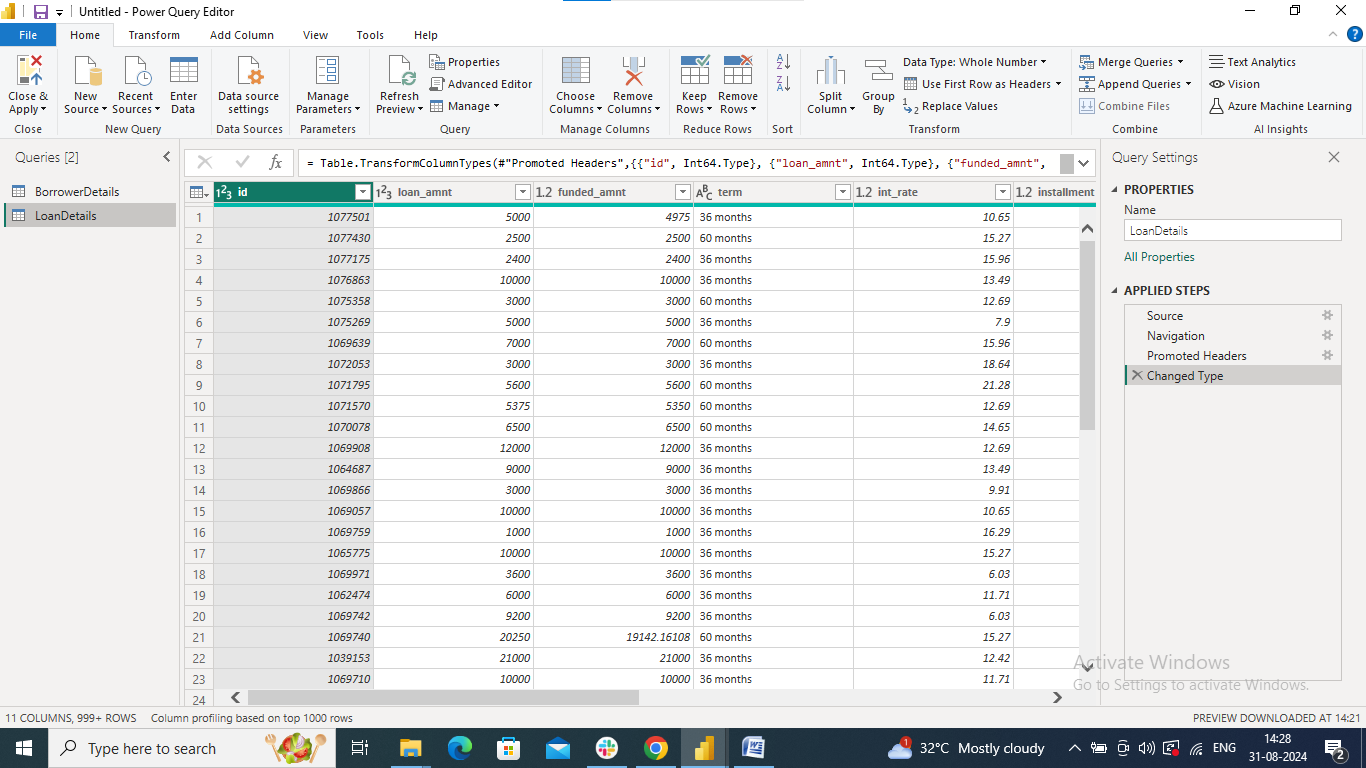
1. LoanDetails: This sheet contains information about each loan.

2. BorrowerDetails: This sheet provides details about the borrowers.

**Project Steps and Objectives:**

**1) Importing Data**

➢ Import the "LoanDetails" and "BorrowerDetails" sheets from the "bank loan.xlsx" file into Power BI.

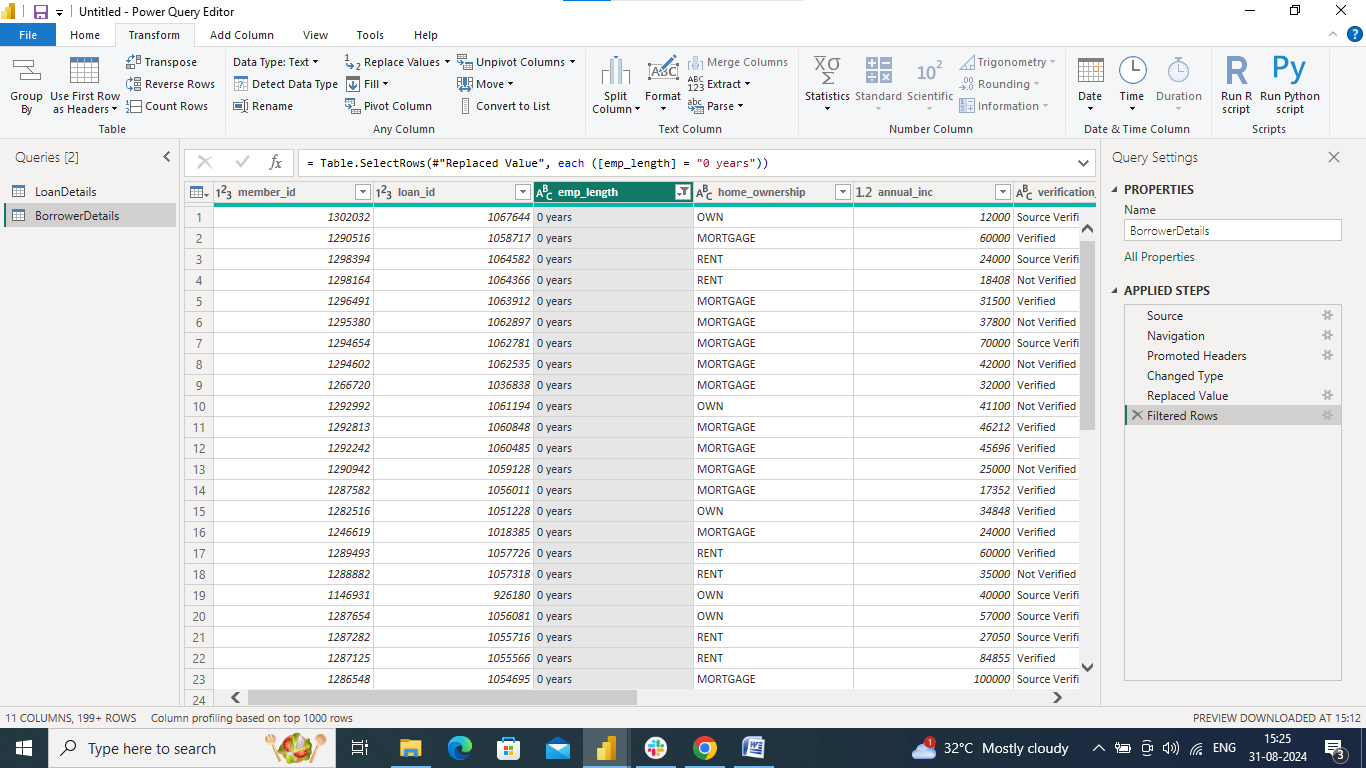


**2) Transformation Using Power Query**

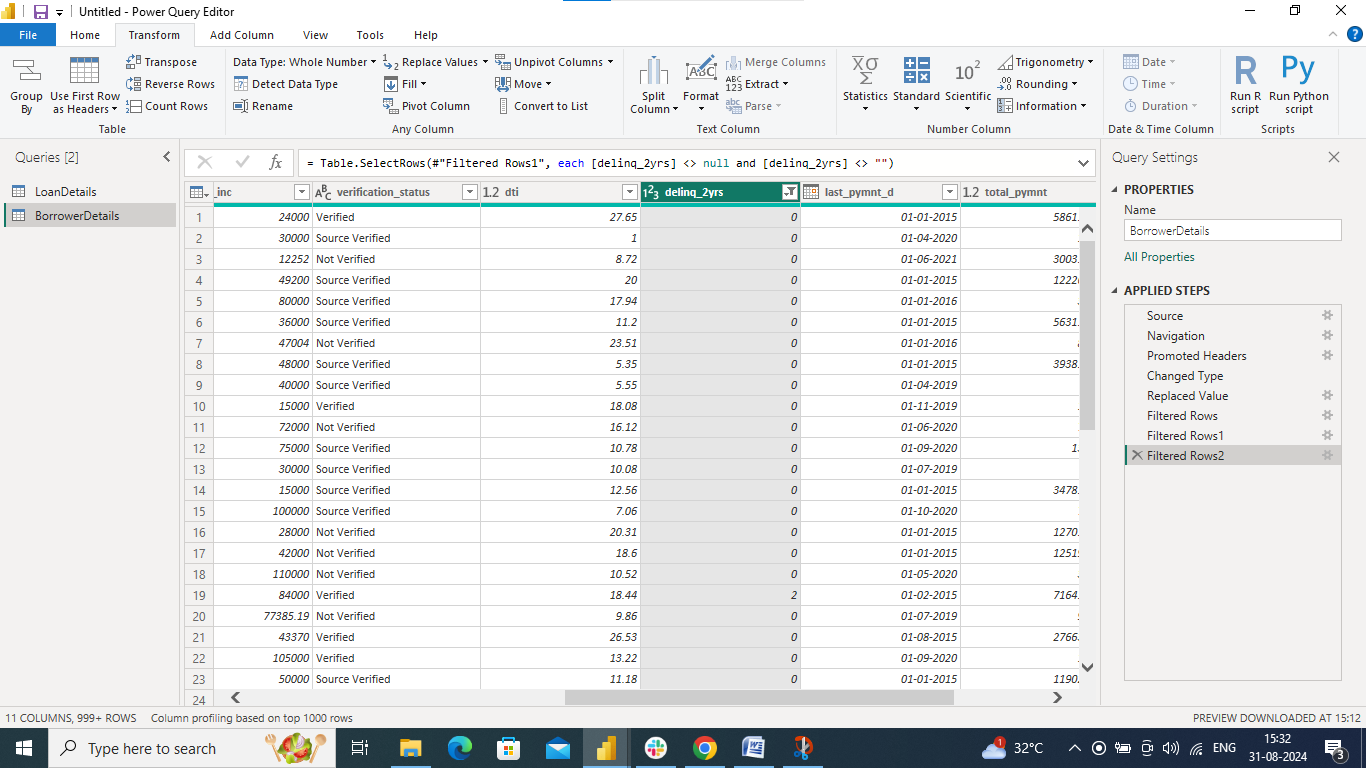
**Data Cleaning:**

**Handling Missing Values and Duplicates:**

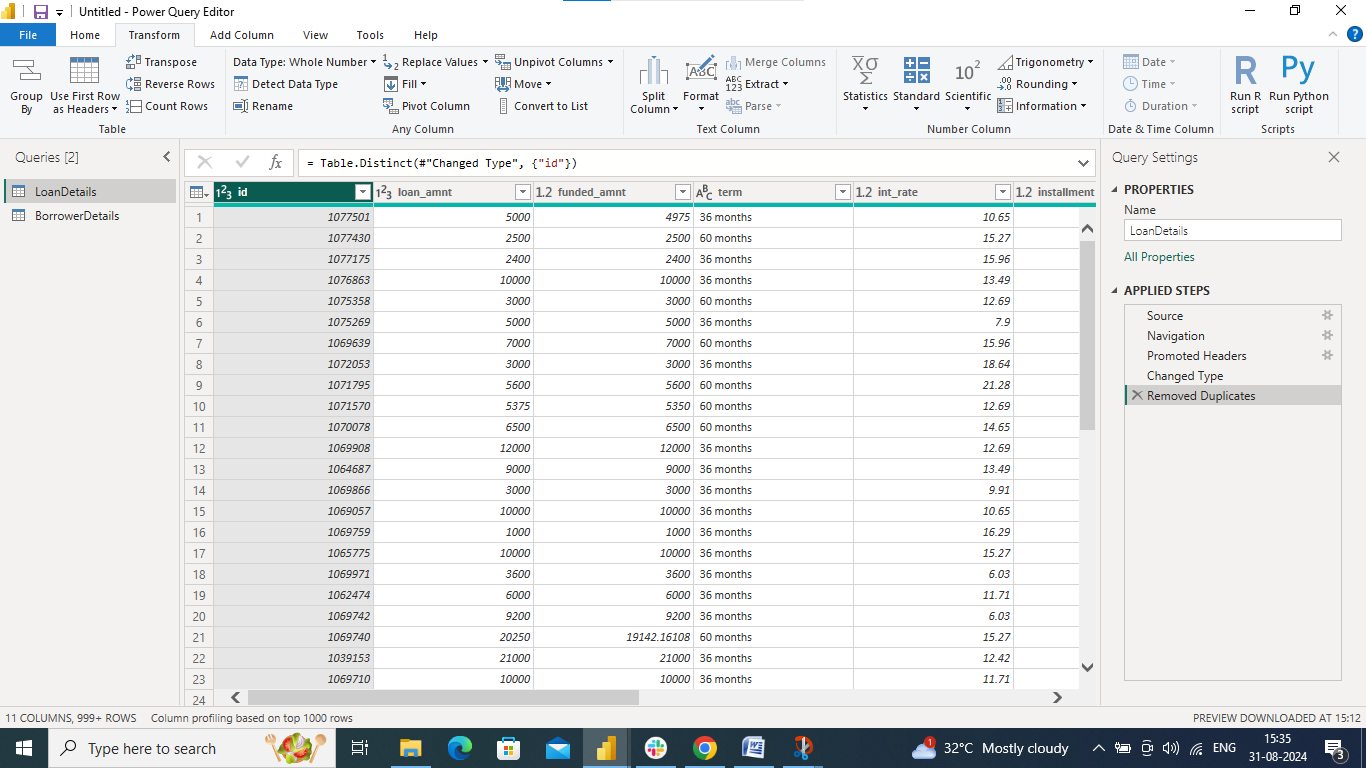
➢ Replace missing values (null) in the 'emp\_length' column of the "BorrowerDetails" table with '0 year'.



➢ Remove rows with missing values in the 'last\_pymnt\_d' and 'delinq\_2yrs' columns.



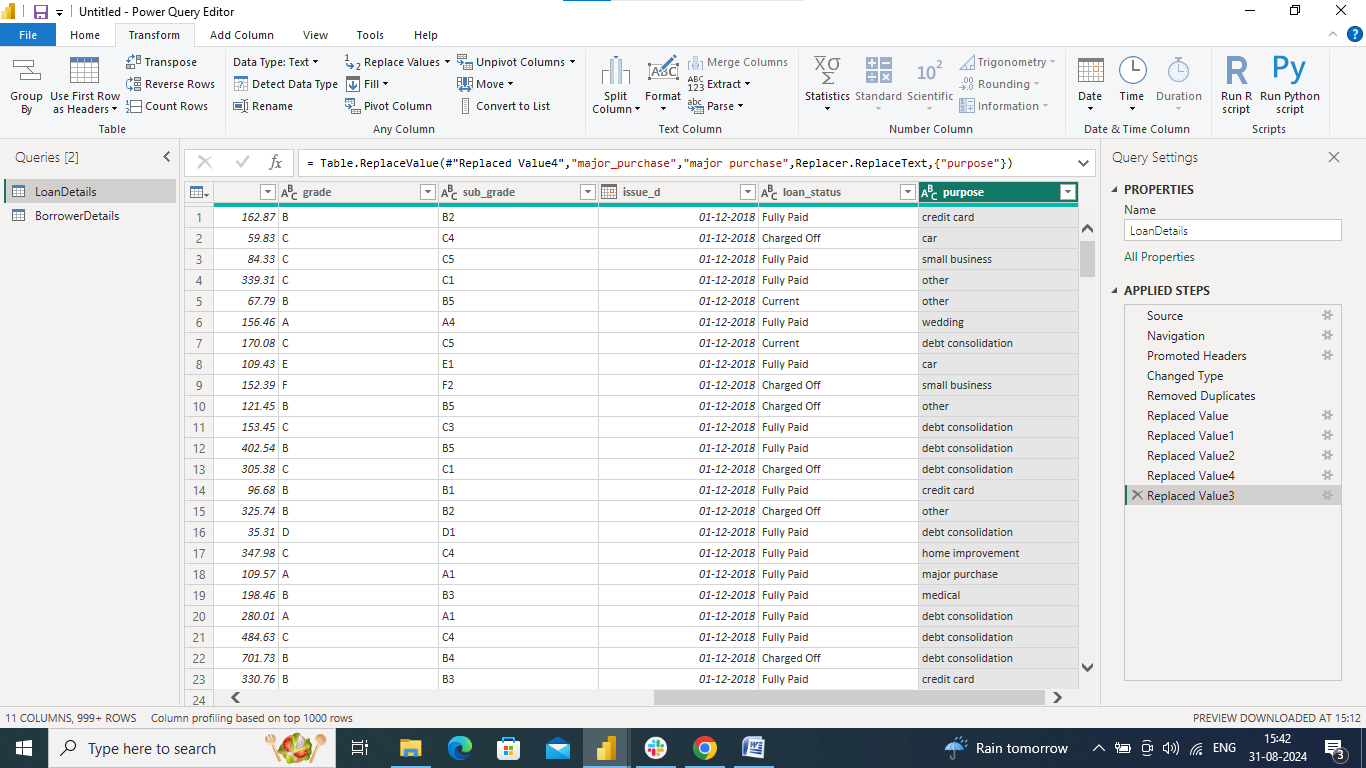
➢ Remove duplicate rows in the 'id' column of the "LoanDetails" table.



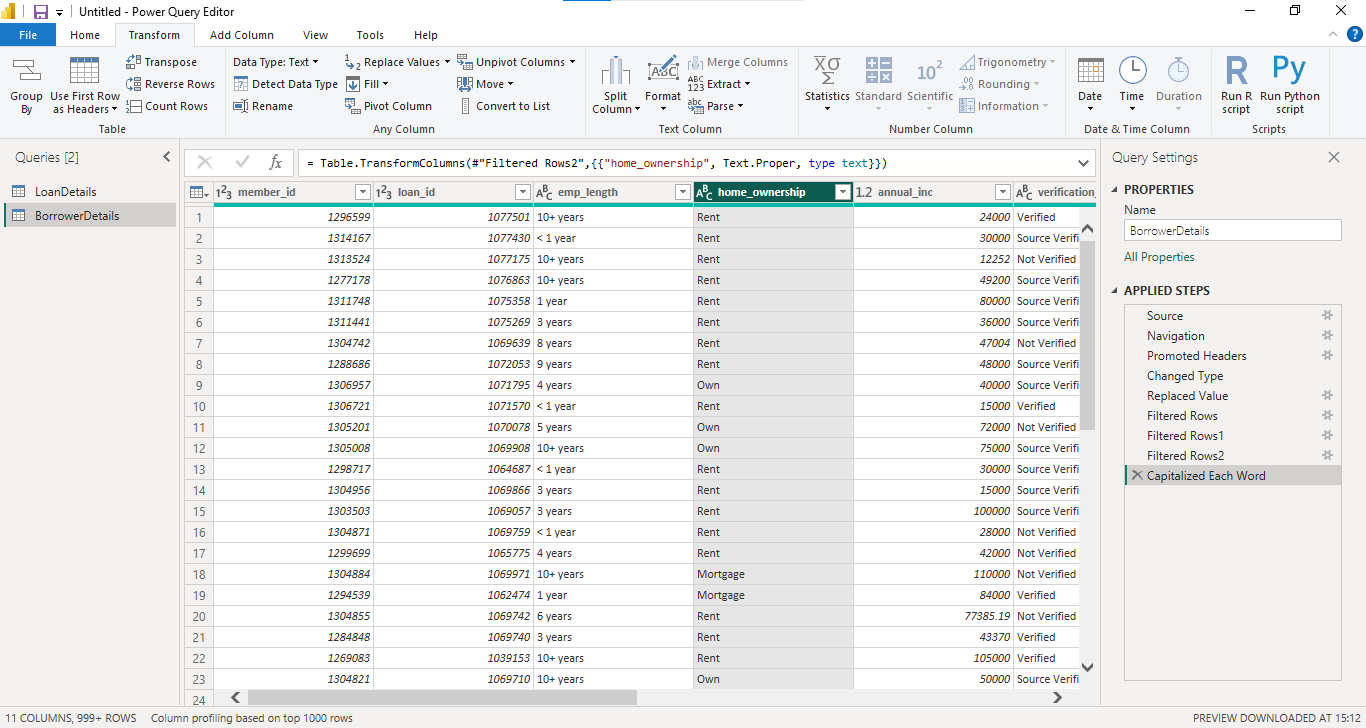
**Dealing with Inconsistencies:**

➢ Ensure words in the 'purpose' column are separated by spaces instead of

underscores (e.g., "credit card" instead of "credit\_card").



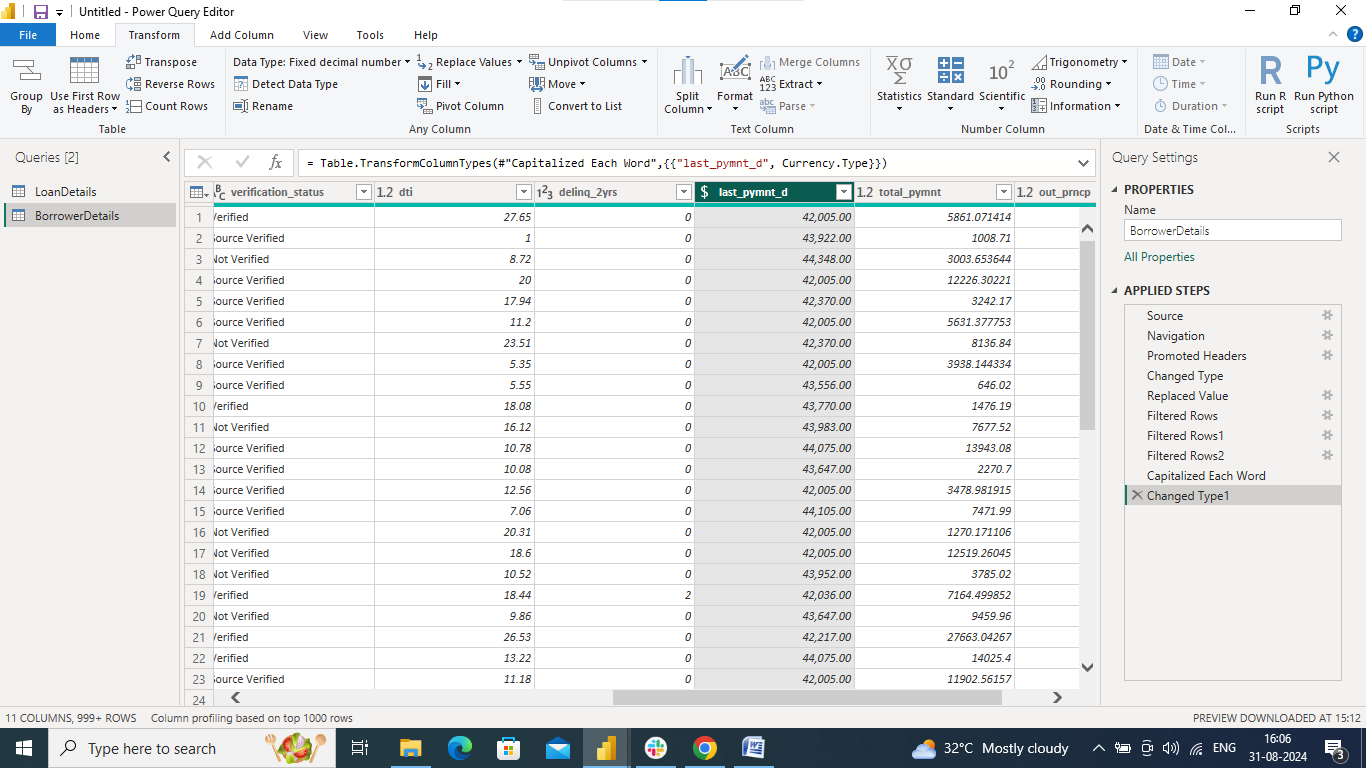
➢ Format the 'purpose' and 'home\_ownership' columns to proper case.



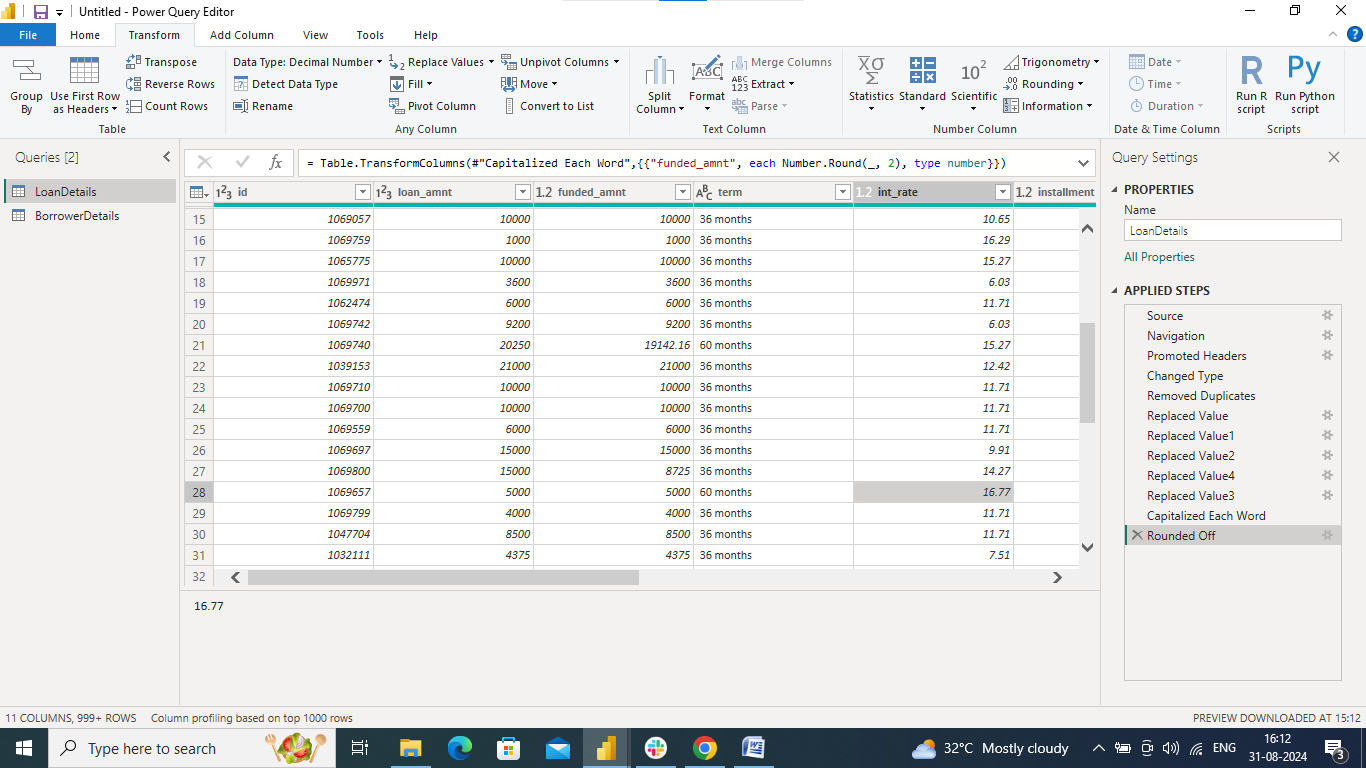
**Data Transformation:**

**Column Transformation:**

➢ Change the data type of the 'total\_pymnt' column to 'Fixed decimal number'.

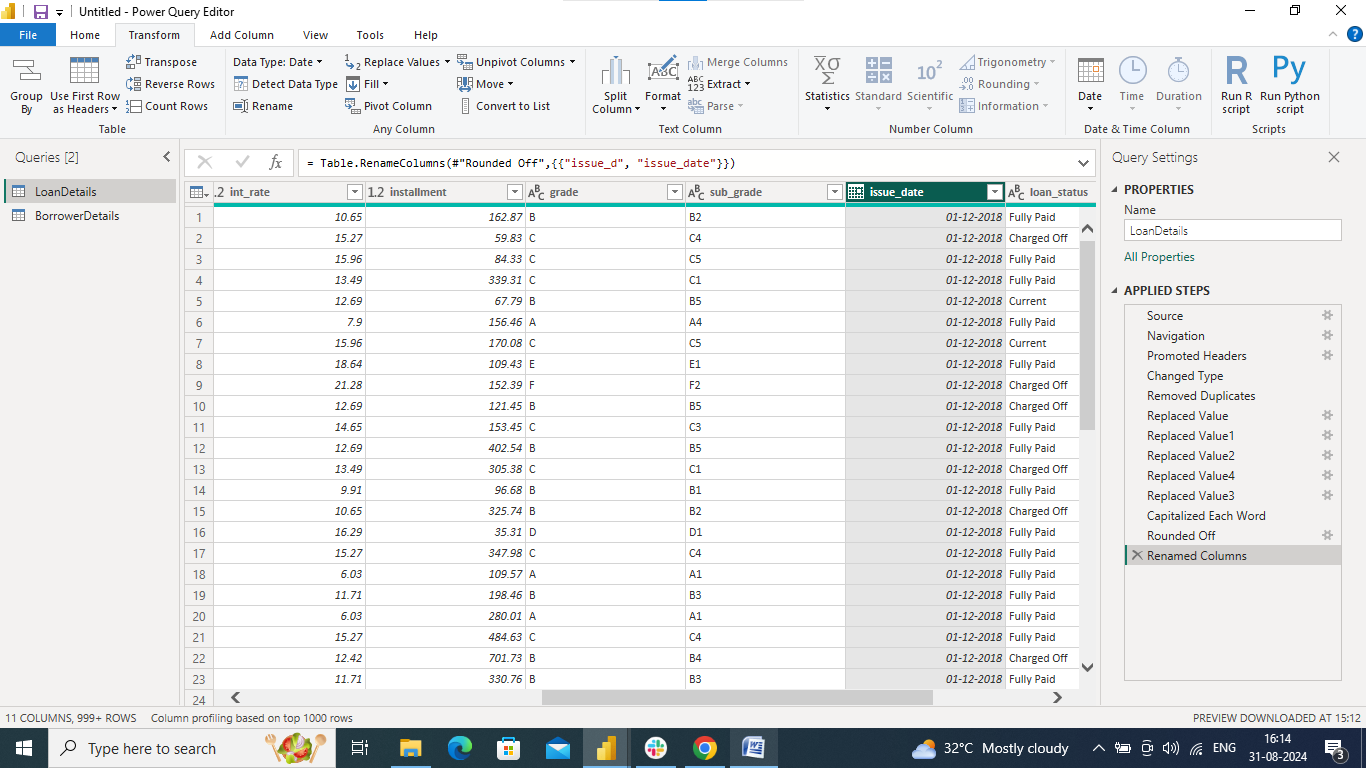


➢ Round off the numbers in the 'funded\_amnt' column to 2 decimal places.

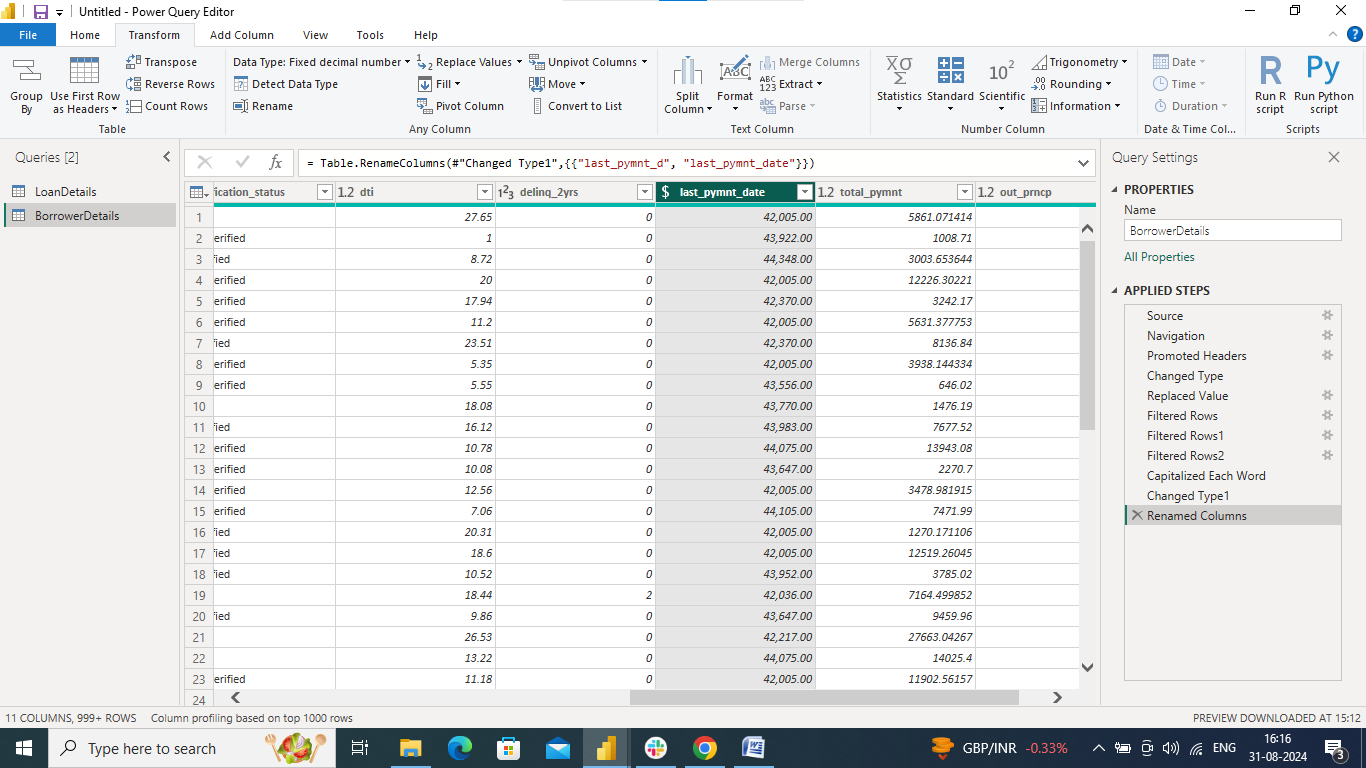


**Column Renaming:**

➢ Rename the column 'issue\_d' to 'issue\_date'.



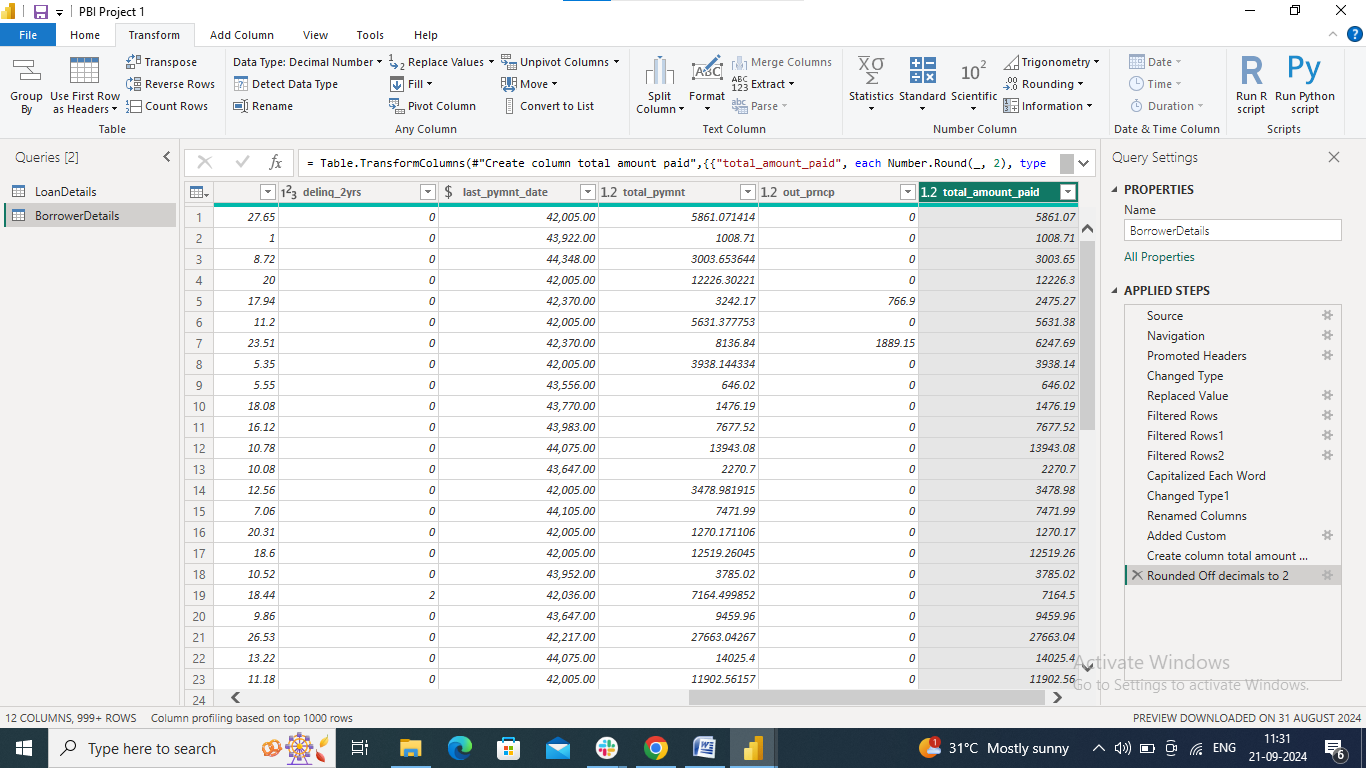
➢ Rename the column 'last\_pymnt\_d' to 'last\_pymnt\_date'.



**Creating New Columns:**

➢ Create a new custom column named 'total\_amount\_paid' to calculate the total

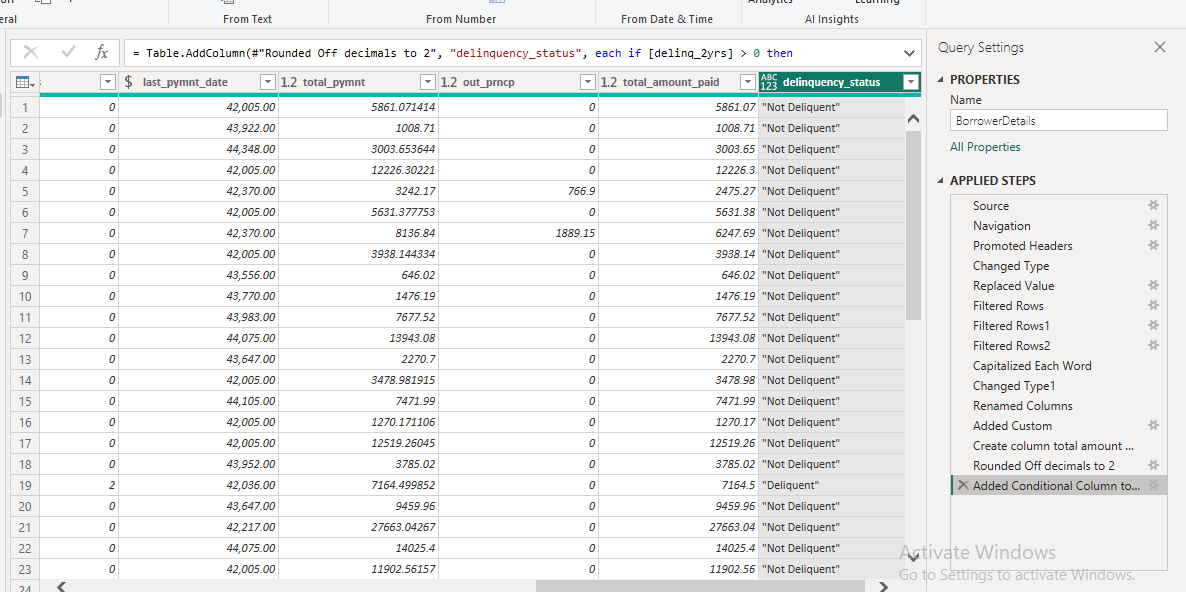
amount paid by each borrower by subtracting 'out\_prncp' from 'total\_pymnt'.



➢ Add a new conditional column named 'delinquency\_status' to identify if the

borrower has any delinquencies. If the number of delinquencies in 'delinq\_2yrs' is

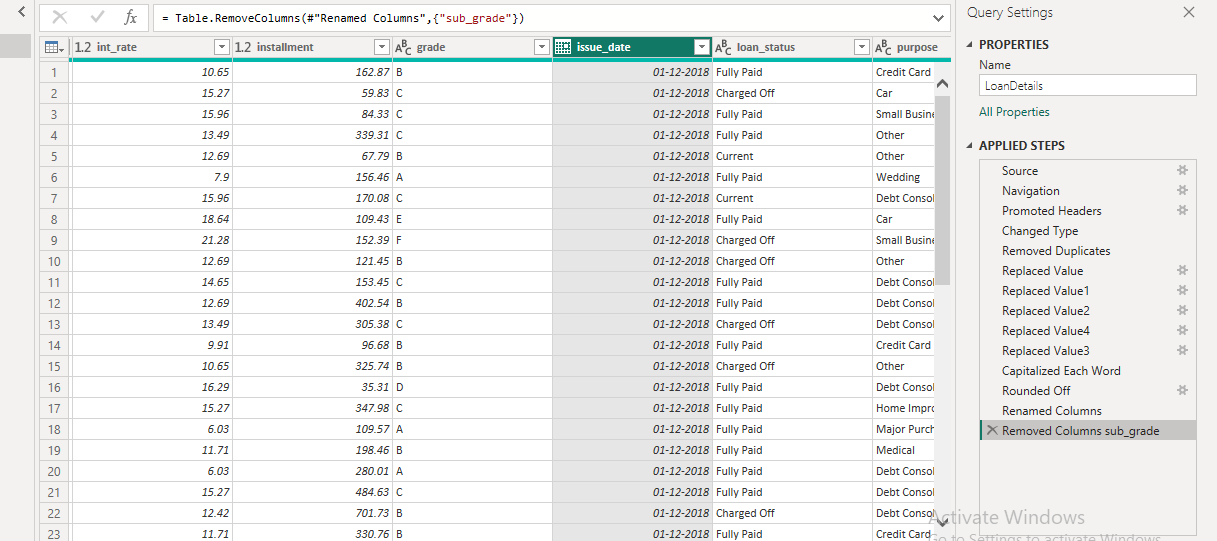
greater than 0, the status should be "Delinquent", otherwise "Not Delinquent".



**Column Dropping:**

➢ Remove the 'sub\_grade' column as that does not significantly contribute to the

analysis.



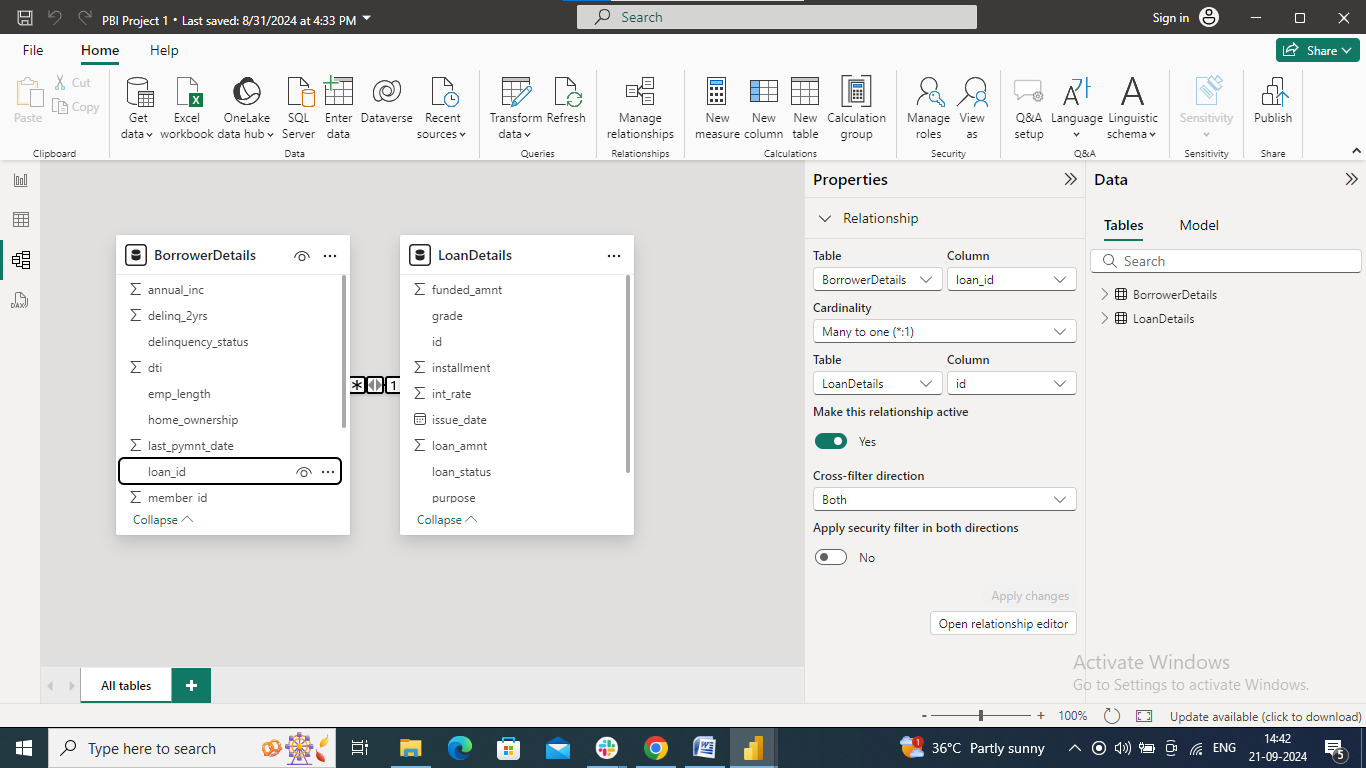
**3) Data Modeling**

➢ Identify the common column between both the tables and establish relationships

between the two tables. Ensure the cross-filter direction is set to "Both". This step

is crucial for enabling cross-table analysis and ensuring data integrity within the

dataset.



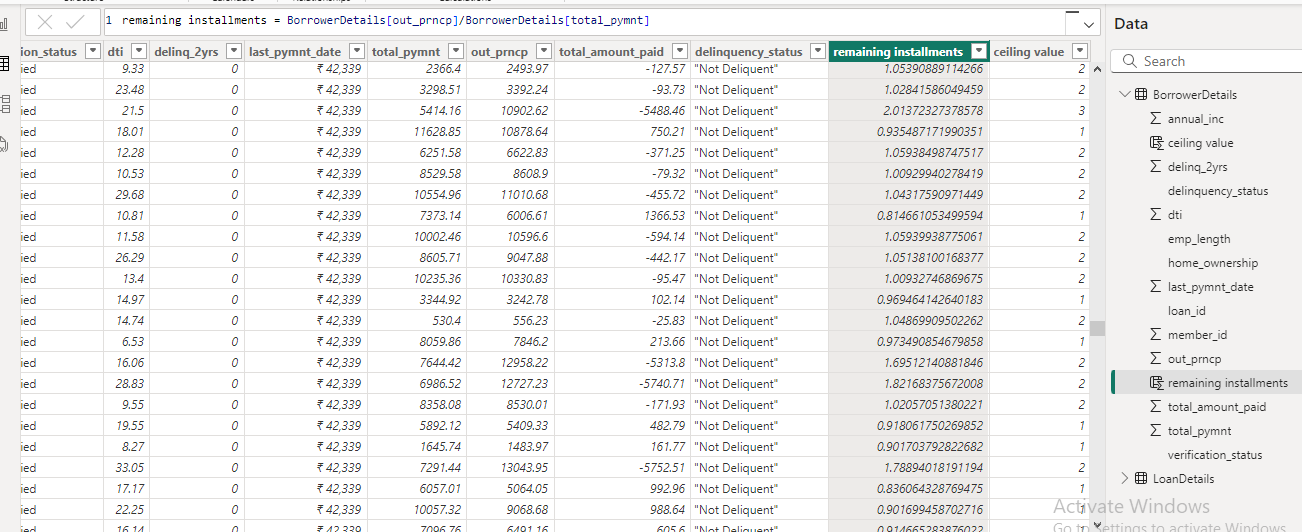
**4) Creating Measures and Calculated Columns using DAX**

➢ Create a new calculated column named 'remaining\_installments' using DAX in the "BorrowerDetails" table to calculate the number of remaining installments by

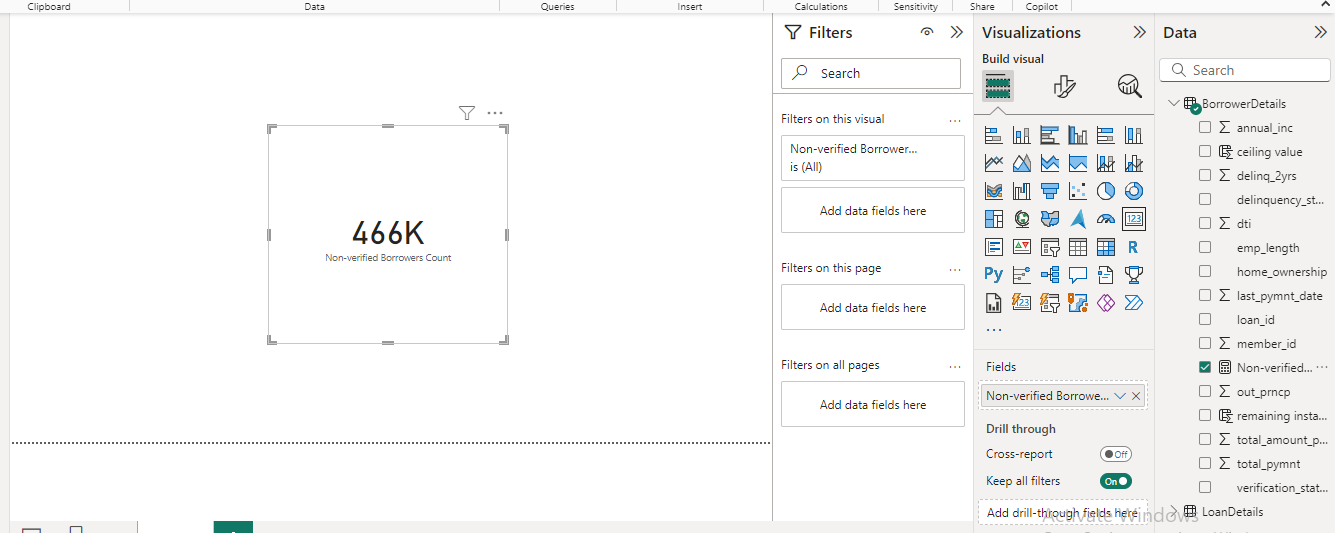
dividing the remaining principal amount ('out\_prncp') by the monthly installment

amount ('installment') and round up the result using the CEILING() function to

account for any partial payments.



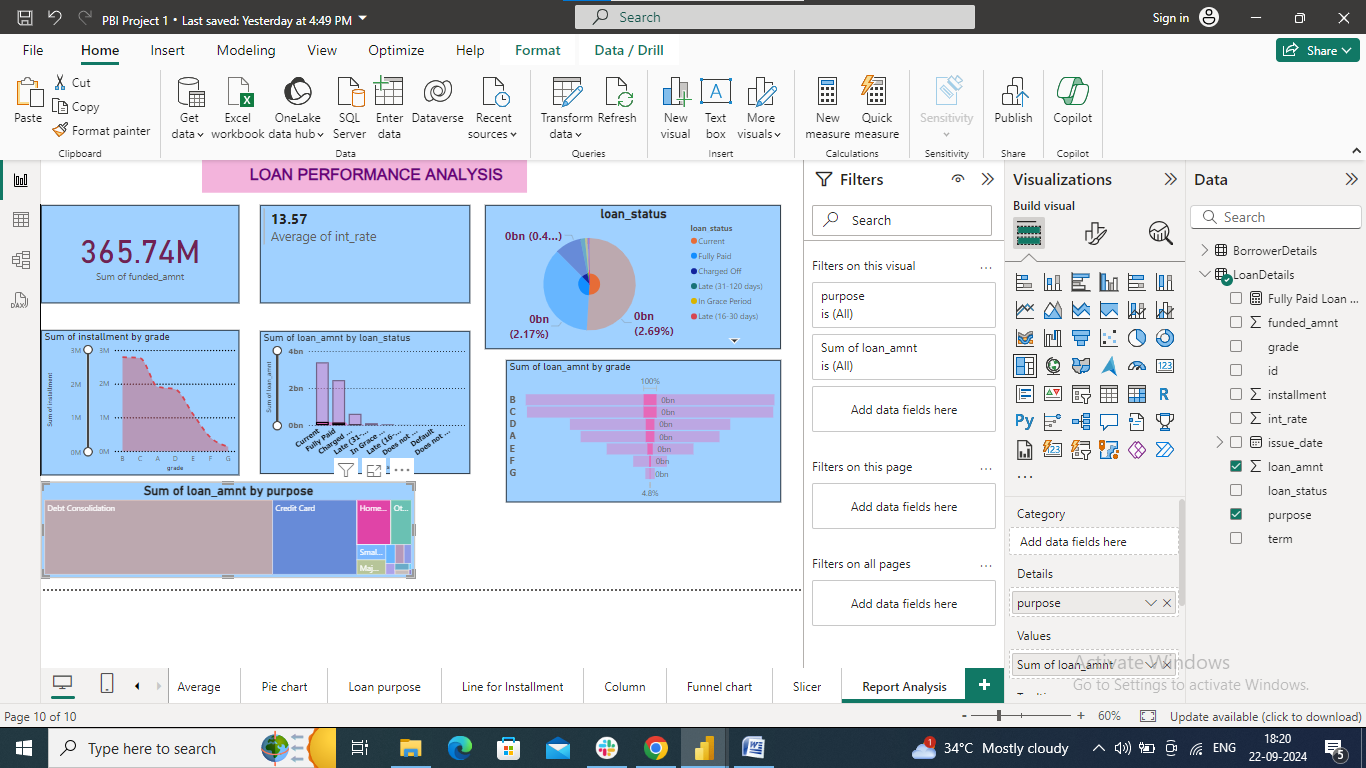
➢ Create a measure named 'Non-Verified Borrowers Count' using DAX to count the number of loans that have been 'Not Verified'.



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**5) Creating Comprehensive Reports**

**★ Report 1: Loan Performance Analysis**



**★ Report 2: Borrower Profile Analysis**

