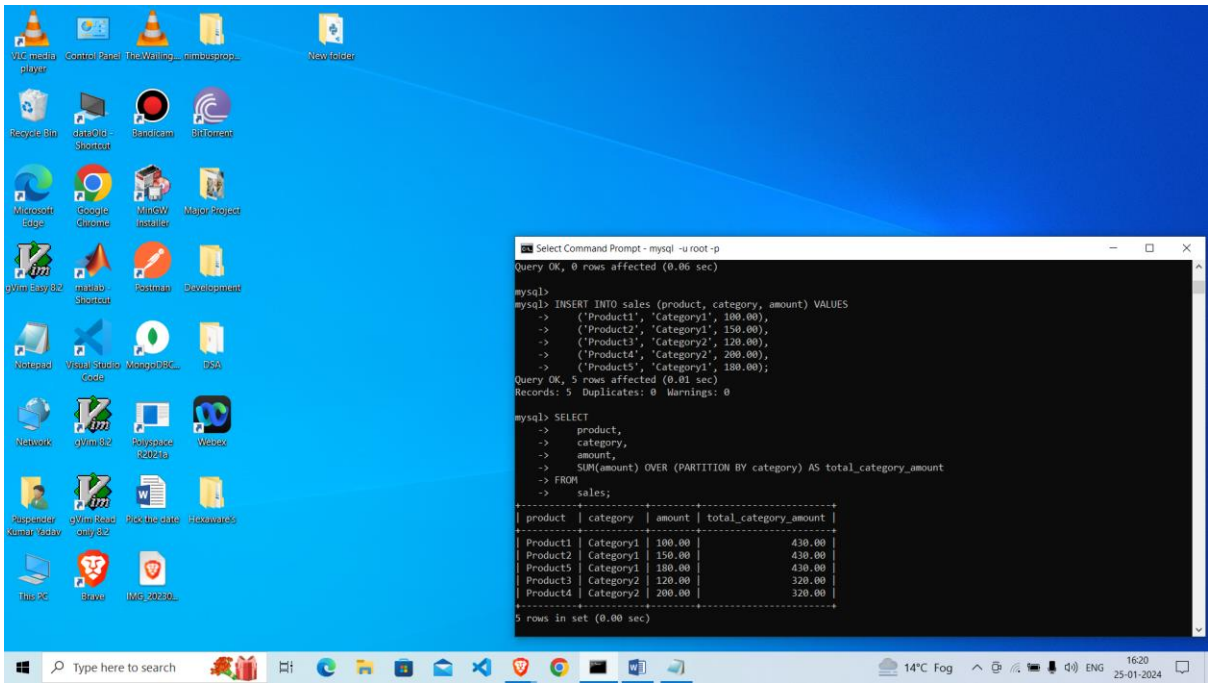
SQL Coding Assessment

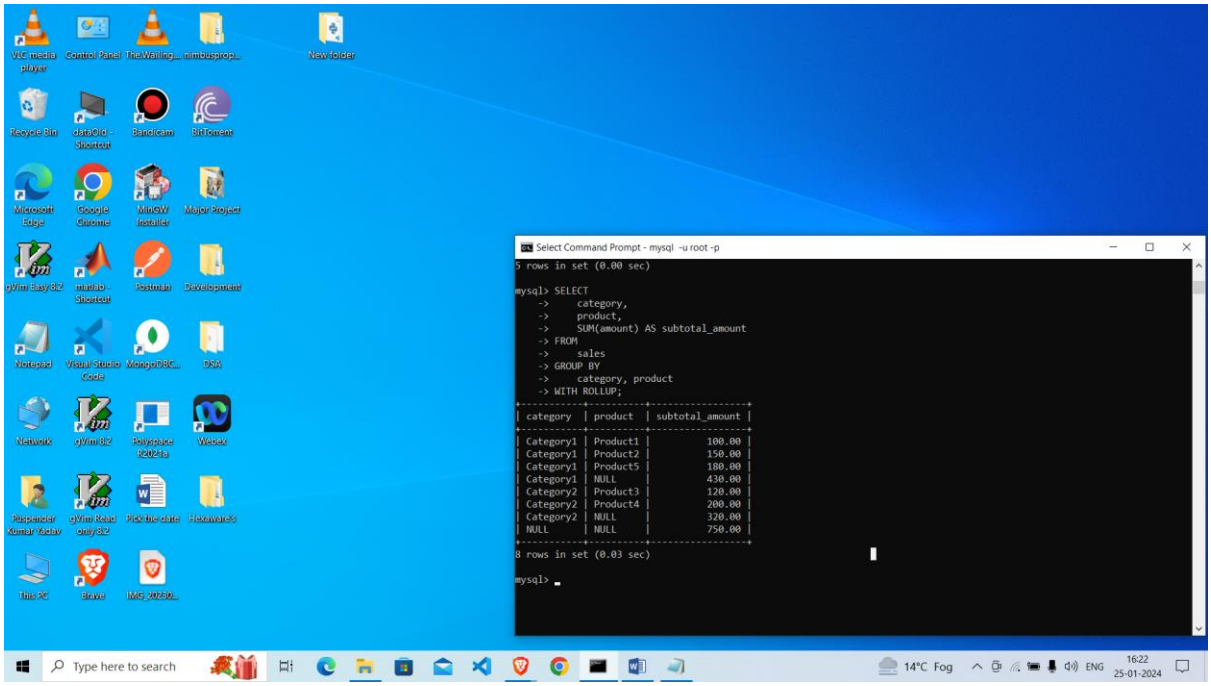
Q. 1 Execute OVER and PARTITION BY Clause in SQL Queries, creating subtotals &Total Aggregations using SQL Queries

Ans.

Let's assume we have a table named sales with columns product, category, and amount



To create a subtotal query for the sales table, we can use the GROUP BY clause along with aggregate functions to calculate subtotals. Here's an example:



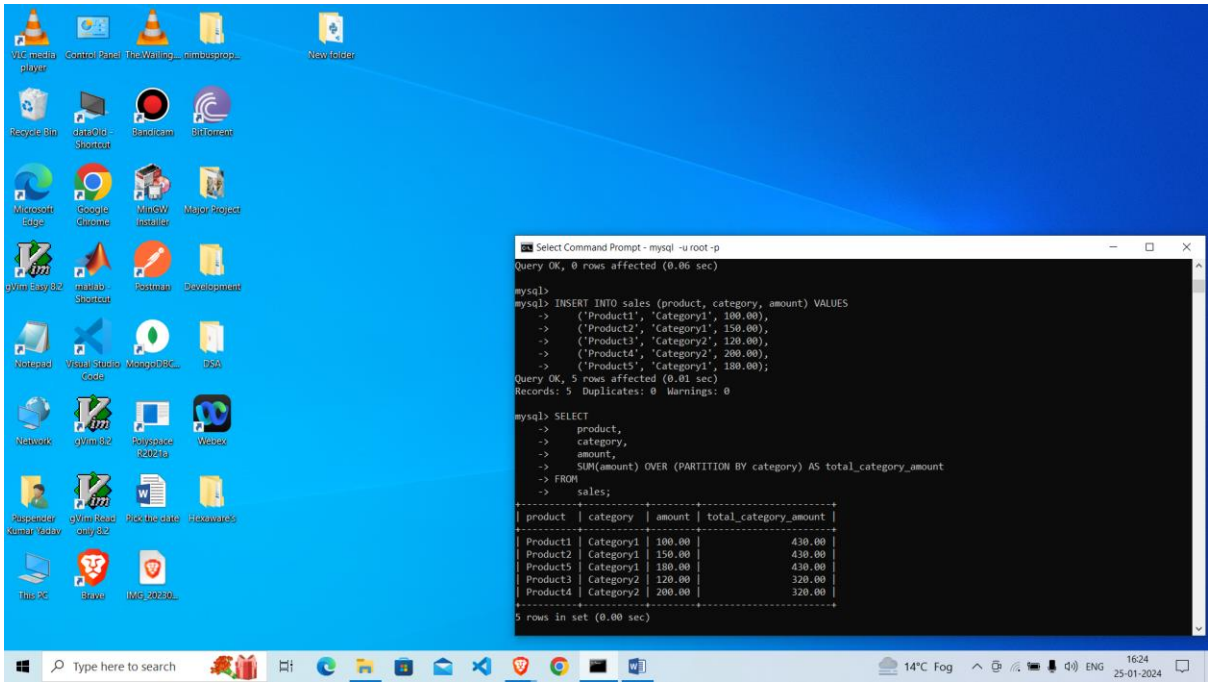
In this query:

- **GROUP BY** category, product specifies the grouping criteria for the subtotal calculation. It groups the data by both category and product.
- **SUM**(amount) calculates the subtotal amount for each group.
- **WITH ROLLUP** is used to include subtotals for each level of grouping specified in the GROUP **BY** clause. It generates additional rows that represent subtotals for various combinations of the specified columns.

The result set will include rows for each category and product combination along with subtotals for each category and a grand total. The NULL values in the category and product columns for some rows indicate subtotals and the grand total.

Example of using the OVER and PARTITION BY clauses for total aggregation:

Calculating the total amount for each category using OVER and PARTITION BY:



In this example:

- **PARTITION BY** category specifies that the SUM function should be applied separately for each category.
- **OVER** indicates the window of rows over which the aggregation is performed.