Laboratory Activity 5: Normalization - First Normal Form (1NF)

CREATE TABLE UnNormalizedBooks (

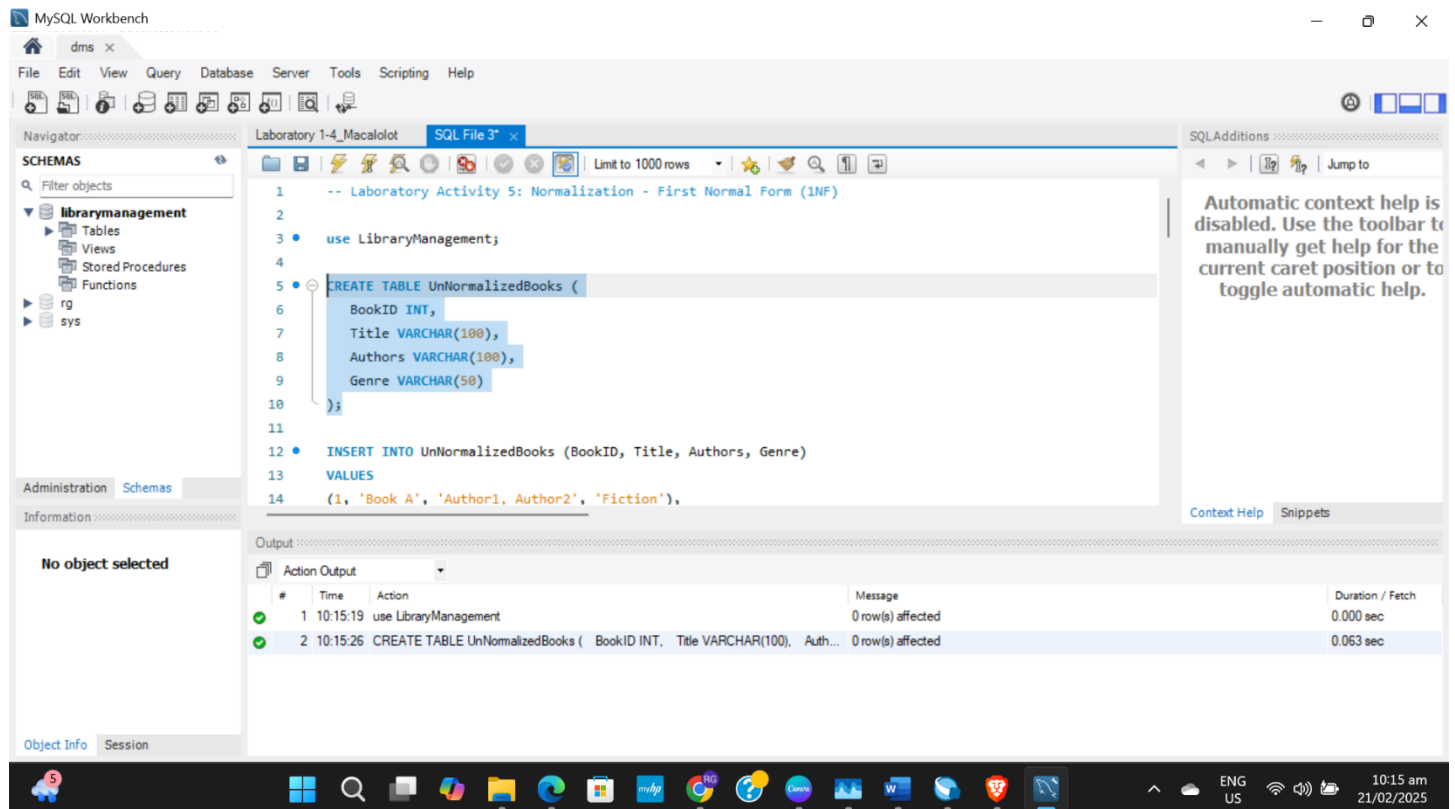   BookID INT,
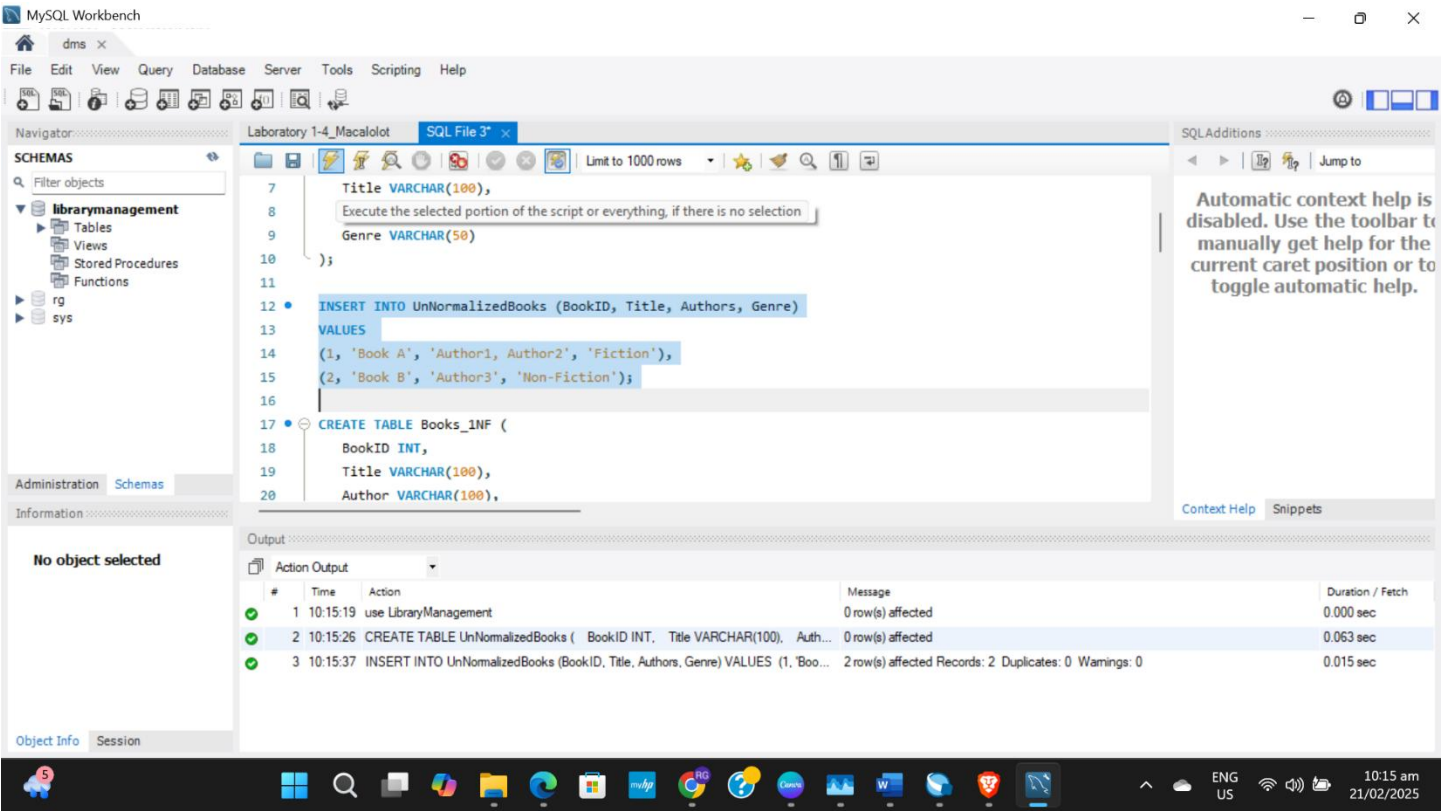
   Title VARCHAR(100),

   Authors VARCHAR(100),

   Genre VARCHAR(50)
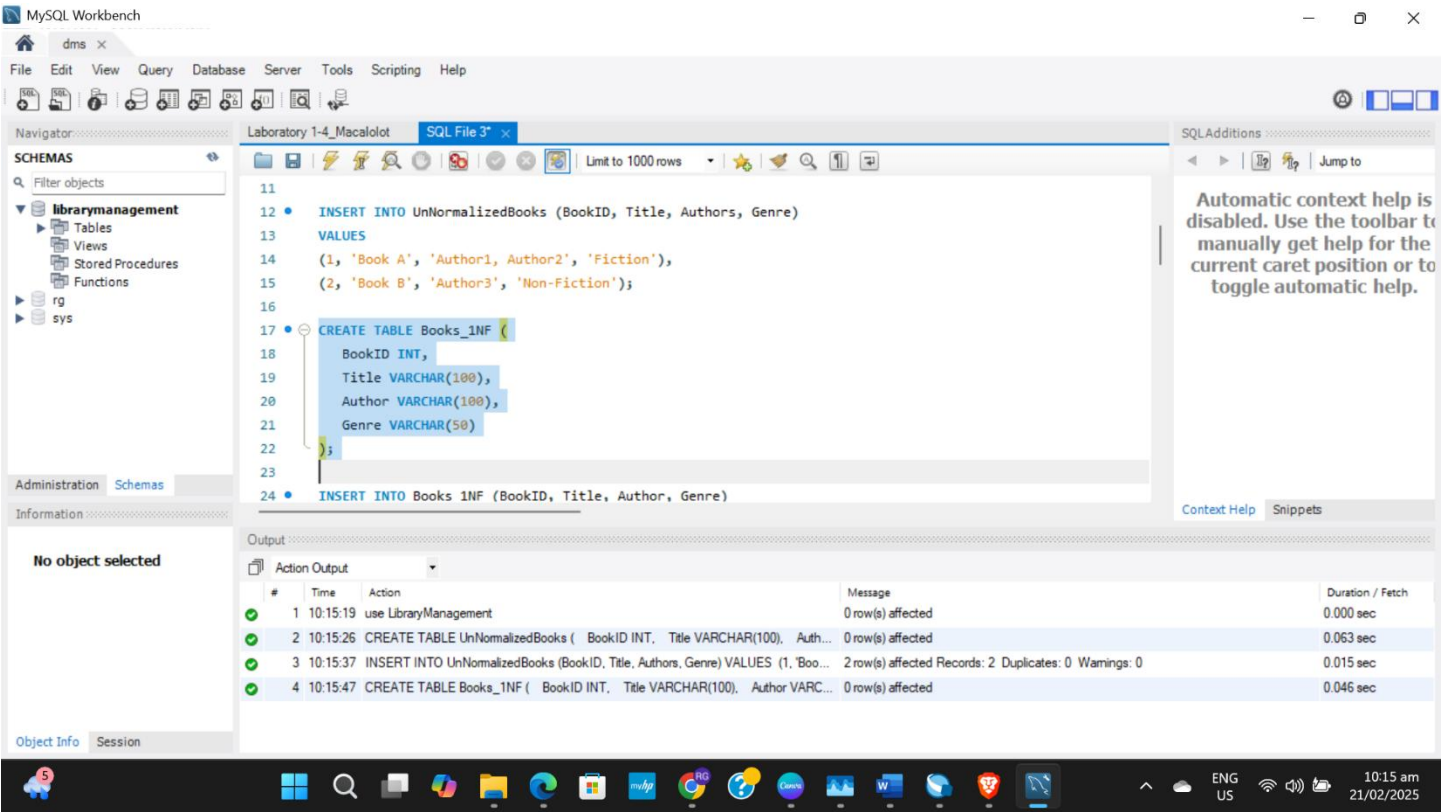
);

INSERT INTO UnNormalizedBooks (BookID, Title, Authors, Genre)

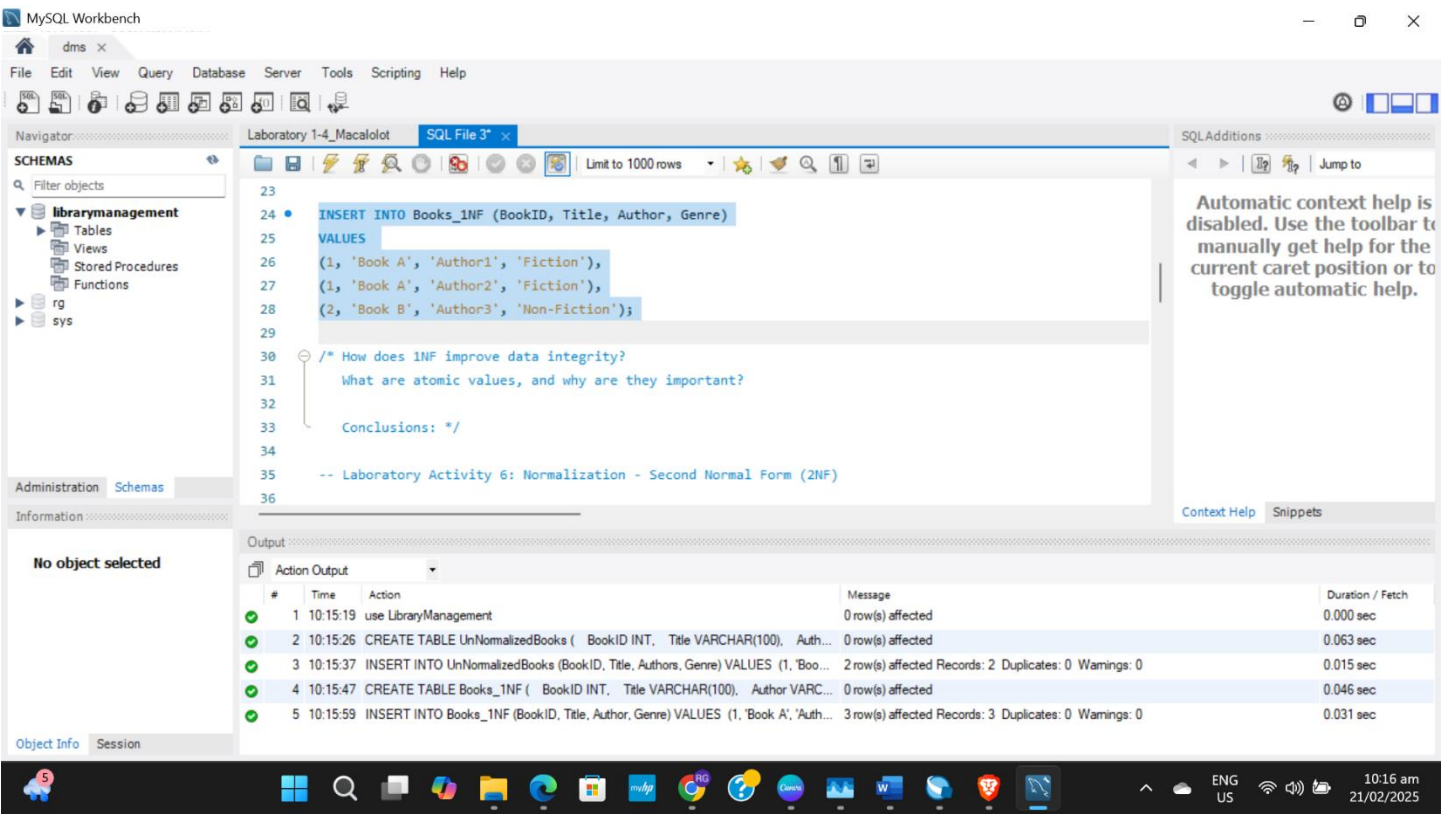VALUES

(1, 'Book A', 'Author1, Author2', 'Fiction'),

(2, 'Book B', 'Author3', 'Non-Fiction');

CREATE TABLE Books_1NF (

   BookID INT,

   Title VARCHAR(100),

   Author VARCHAR(100),

   Genre VARCHAR(50)

);

INSERT INTO Books_1NF (BookID, Title, Author, Genre)

VALUES

(1, 'Book A', 'Author1', 'Fiction'),

(1, 'Book A', 'Author2', 'Fiction'),

(2, 'Book B', 'Author3', 'Non-Fiction');

How does 1NF improve data integrity?

 1NF improves data integrity by ensuring that each column contains atomic values, eliminating redundancy and making it easier to maintain data consistency, accuracy, and accuracy.

What are atomic values, and why are they important?

 Atomic values are individual, self-contained pieces of data that cannot be broken down further, making them essential for maintaining data integrity, as they eliminate redundancy, improve data consistency, and enable efficient data manipulation and analysis.

Conclusions: By normalizing a table to 1NF, we have successfully eliminated redundancy and improved data integrity by ensuring that each column contains atomic values, making it easier to manage and maintain accurate data.