Subqueries and Views

Project Title: Country and Customer Database

Overview

This project involves the creation and management of two primary tables: Country and Persons, along with a Customer table within a new database called Product. The goal is to manage demographic and customer information effectively, allowing for various data queries and operations.

Database Structure

1. Country Table

- Table Name: Country
- Fields:
 - o Id (INT, PRIMARY KEY): Unique identifier for each country.
 - o Country_name (VARCHAR(100)): Name of the country.
 - o Population (INT): Total population of the country.
 - o Area (INT): Total area of the country in square kilometers.

2. Persons Table

- Table Name: Persons
- Fields:
 - o Id (INT, PRIMARY KEY): Unique identifier for each person.
 - o Fname (VARCHAR(100)): First name of the person.
 - Lname (VARCHAR(100)): Last name of the person.
 - Population (INT): Population associated with the person (for context).
 - o Rating (DECIMAL(3, 2)): Rating of the person (e.g., on a scale of 1 to 5).
 - Country_Id (INT): Foreign key linking to the Country table.
 - Country_name (VARCHAR(100)): Name of the country.

3. Customer Table

- Database Name: Product
- Table Name: Customer
- Fields:
 - o Customer_Id (INT, PRIMARY KEY): Unique identifier for each customer.
 - First_name (VARCHAR(100)): Customer's first name.
 - o Last name (VARCHAR(100)): Customer's last name.

- o Email (VARCHAR(100)): Customer's email address.
- o Phone_no (VARCHAR(15)): Customer's phone number.
- Address (VARCHAR(255)): Customer's address.
- o City (VARCHAR(100)): City of residence.
- o State (VARCHAR(100)): State of residence.
- o Zip_code (VARCHAR(10)): Zip code of the address.
- o Country (VARCHAR(100)): Country of residence.

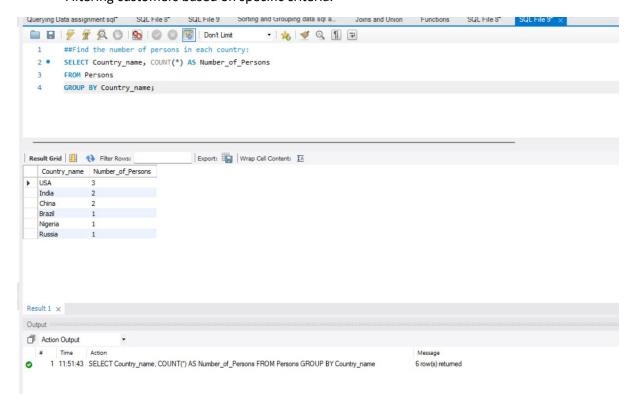
Views Created

- 1. **customer_info**: Displays full name and email address of customers.
- 2. **US_Customers**: Displays customers located in the United States.
- 3. **Customer_details**: Provides a detailed view of customer information.

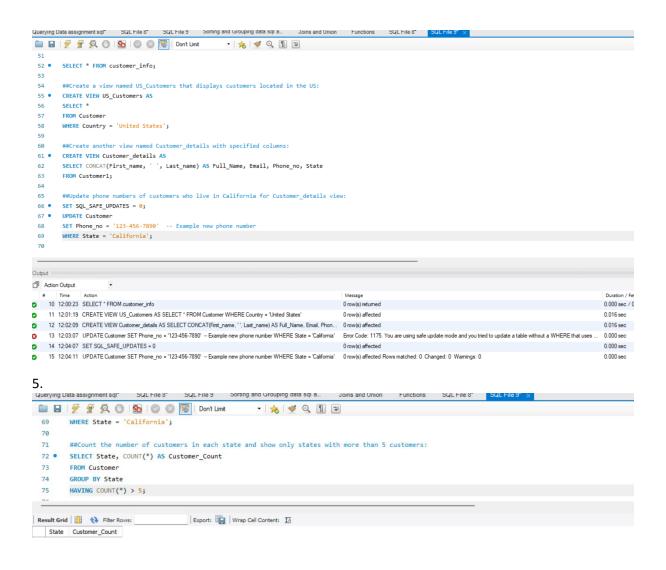
SQL Operations

This project includes various SQL operations, such as:

- Counting persons by country.
- Calculating average ratings for persons.
- Updating customer phone numbers based on location.
- Filtering customers based on specific criteria.



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               FROM Country
               WHERE Population > (SELECT AVG(Population) FROM Country);
   28
               ##Create the Product Database and Customer Table
   30 • CREATE DATABASE Product;
   32 • USE Product;
   33
   34 • ⊖ CREATE TABLE Customer1 (
   35
                     Customer_Id INT PRIMARY KEY,
                     First_name VARCHAR(100),
   37
                     Last_name VARCHAR(100),
   38
                     Email VARCHAR(100),
                     Phone_no VARCHAR(15),
   40
                     Address VARCHAR(255),
   41
                    City VARCHAR(100),
   42
                     State VARCHAR(100),
                     Zip code VARCHAR(10),
   43
                     Country VARCHAR(100)
   45
              );
Output :
 Action Output
2 11:52:31 SELECT Country_name, COUNT(') AS Number_of_Persons FROM Persons GROUP BY Country_name ORDER... 6 row(s) returned
                                                                                                                                                                                                                                                                                       0.000 sec / 0.000 sec
         3 11:53:22 SELECT Country_name, AVG(Rating) AS Average_Rating FROM Persons GROUP BY Country_name HAVING ... 5 row(s) returned
                                                                                                                                                                                                                                                                                       0.000 sec / 0.000 sec
4 11:54:44 SELECT DISTINCT Country_name FROM Persons WHERE Rating = (SELECT AVG(Rating) FROM Persons W... 0 row(s) returned
                                                                                                                                                                                                                                                                                       0.000 sec / 0.000 sec
         5\ \ 11:55:35\ \ SELECT\ Country\_name\ FROM\ Country\ WHERE\ Population > (SELECT\ AVG(Population)\ FROM\ Country)
                                                                                                                                                                                                                                                                                       0.000 sec / 0.000 sec
6 11:56:25 CREATE TABLE Customer ( Customer Jd INT PRIMARY KEY, First _name VARCHAR(100), Last _name ... Error Code: 1050. Table 'customer' already exists
7 11:56:45 CREATE TABLE Customer | ( Customer _Id INT PRIMARY KEY, First _name VARCHAR(100), Last _name ... 0 row(s) affected
                                                                                                                                                                                                                                                                                       0.000 sec
                                                                                                                                                                                                                                                                                       0.032 sec
3.
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                        Country VARCHAR(100)
  44
  45
                        );
  46
  47
                         ##Create a view named customer_info for the Customer table that displays Customer's full name and email address:
  48 •
                       CREATE VIEW customer_info AS
                SELECT CONCAT(First_name, ' ', Last_name) AS Full_Name, Email
  49
  50
                FROM Customer1;
  51
  52 • SELECT * FROM customer_info;
  53
  54
                ##Create a view named US Customers that displays customers located in the US:
  55 • CREATE VIEW US_Customers AS
  56
                SELECT *
  57
                FROM Customer
                WHERE Country = 'United States';
  58
  59
  60
               ##Create another view named Customer_details with specified columns:
  61 • CREATE VIEW Customer_details AS
  62
                 SELECT CONCAT(First_name, ' ', Last_name) AS Full_Name, Email, Phone_no, State
                FROM Customer1;
  63
  64
Output .....
Action Output
       7 11:56:45 CREATE TABLE Customer1 ( Customer_ld INT PRIMARY KEY, First_name VARCHAR(100), Last_name... 0 row(s) affected
8 11:59:04 SELECT * FROM customer_info
                                                                                                                                                                                         Error Code: 1146. Table 'sales.customer_info' doesn't exist
        9 12:00:18 CREATE VIEW customer_info AS SELECT CONCAT(First_name, '', Last_name) AS Full_Name, Email FROM Cu... 0 row(s) affected
10 12:00:23 SELECT * FROM customer_info
       11 12:01:19 CREATE VIEW US_Customers AS SELECT * FROM Customer WHERE Country = 'United States'
                                                                                                                                                                                         0 row(s) affected
12 12:02:09 CREATE VIEW Customer_details AS SELECT CONCAT(First_name, '', Last_name) AS Full_Name, Email, Phon... 0 row(s) affected
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6.

