Assignment 3: Craft a query using an INNER JOIN to combine 'orders' and 'customers' tables for customers in a specified region, and a LEFT JOIN to display all customers including those without orders.

Solution:

1. **INNER JOIN to combine 'orders' and 'customers' tables for customers in a specified region:**

   Assuming the tables have the following columns:

   - orders: OrderID, CustomerID, OrderDate, TotalAmount

   - customers: CustomerID, CustomerName, Region

   Here's the query to combine the two tables for customers in a specified region:

   SELECT orders.OrderID, orders.OrderDate, orders.TotalAmount, customers.CustomerName, customers.Region

   FROM orders

   INNER JOIN customers ON orders.CustomerID = customers.CustomerID

   WHERE customers.Region = 'SpecifiedRegion';

   Replace 'SpecifiedRegion' with the actual region you want to filter by. For example, if you want to filter for customers in the "West" region:

   SELECT orders.OrderID, orders.OrderDate, orders.TotalAmount, customers.CustomerName, customers.Region

   FROM orders

   INNER JOIN customers ON orders.CustomerID = customers.CustomerID

   WHERE customers.Region = 'West';

2. **LEFT JOIN to display all customers including those without orders:**

   Here's the query to display all customers, including those without any orders:

   SELECT customers.CustomerID, customers.CustomerName, customers.Region, orders.OrderID, orders.OrderDate, orders.TotalAmount

   FROM customers

   LEFT JOIN orders ON customers.CustomerID = orders.CustomerID;

   Explanation

1. **INNER JOIN Query**:

   o The INNER JOIN combines rows from orders and customers tables where the CustomerID matches in both tables.

   o The WHERE clause filters the results to include only those customers who are in the specified region.

2. **LEFT JOIN Query**:

   o The LEFT JOIN returns all rows from the customers table, and the matched rows from the orders table.

   o If there is no match, the result is NULL on the side of the orders table for that customer.

These queries will provide you with the data as specified in the assignments.