**Power Query Exercises(Customers and cookies):**

**Exercise 1: Import Data into Power Query and Combine Tables**

Task: Import the Orders, Customers, and Cookie Types tables into Power Query and create a merged data model.

Steps:

1. Import the Data:

- Go to Data > Get Data and import the Orders, Customers, and Cookie Types tables from Excel or another source.

- Load the data into the Power Query Editor.

2. Merge Queries:

- Merge the Orders table with the Customers table to bring in customer details.

- Merge the result with the Cookie Types table to bring in cookie details.

3. Create Calculated Columns:

- Add a calculated column for the total price of each order, based on the quantity and price per unit from the Cookie Types table.

**Exercise 2: Filter Orders by a Specific City and Date Range**

Task: Filter the merged table to show only orders placed by customers from Green Bay and within a specific date range: from 2019-01-01 to 2020-03-31.

Steps:

1. In the Power Query Editor, apply a filter to show only customers from Green Bay.

2. Add a date filter to show orders placed between 2023-01-01 and 2023-03-31.

**Exercise 3: Add a Custom Column for Discounts**

Task: Add a custom column that applies a 10% discount to any order with a Quantity greater than 10.

Steps:

1. In the Power Query Editor, add a custom column that calculates a Discounted Price.

- If the order's quantity is greater than 10, apply a 10% discount to the total price.

- Otherwise, keep the total price unchanged.

**Exercise 4: Group Orders by Customer and Calculate Total Amount Spent**

Task: Group the orders by customer and calculate the total amount each customer spent.

Steps:

1. In Power Query, group the data by CustomerName.

2. Summarize the total amount spent by each customer, using the `DiscountedPrice` column.

**Exercise 5: Create a Relationship in the Data Model**

Task: After loading the data to Power Pivot, create relationships between the Orders, Customers, and Cookie Types tables.

Steps:

1. After loading the tables to Power Pivot, go to Power Pivot > Manage.

2. Click on Design > Create Relationship.

- Create a relationship between Orders[CustomerID] and Customers[CustomerID].

- Create another relationship between Orders[CookieTypeID] and Cookie Types[CookieTypeID].

**Exercise 6: Create a Custom Column for Order Year**

Task: Add a custom column that extracts the year from the `OrderDate` field.

Steps:

1. In Power Query, create a custom column that extracts the year from the `OrderDate` column.

2. Ensure the new column is named OrderYear. ( Date.Year([OrderDate])

**Exercise 7: Sort Orders by Total Price in Descending Order**

Task: Sort the Orders table by `TotalPrice` in descending order.

**Exercise 8: Remove Duplicate Customers**

Task: Remove duplicate customer entries based on the CustomerName column.

**Exercise 10: Split Full Name into First Name and Last Name**

Task: Split the `CustomerName` column in the Customers table into two separate columns: based on the space between the strings

**Exercise 11: Find the Most Ordered Cookie Type**

Task: Identify the most ordered cookie type by summing the `Quantity` in the Orders table and grouping by `CookieName`. (use - Group by `CookieName`, and in the New Column Name, select Sum of the `Quantity` column.)

**Exercise 12: Add a Conditional Column for Order Size**

Task: Add a column that categorizes each order as Small, Medium, or Large based on the `Quantity`:

- Small: Quantity < 10

- Medium: Quantity between 10 and 20

- Large: Quantity > 20

**Exercise 13: Pivot Orders to Create Summary Table**

Task: Pivot the Orders table to create a summary table that shows the total quantity of each cookie type ordered by customer.