Week-1 Documentation:

1. Introduction:

This document outlines the process undertaken in Week 1 to create database tables from the provided CSV file. The goal was to transform the raw data into structured tables for further analysis.

Objective:

- Create structured database tables for Inventory, Manufacturing, Supplier, and Supply Chain data using the provided Sustainable Supply Chain Performance.csv file

2. Input Files:

CSV File

- **File Name:** Sustainable Supply Chain Performance.csv
- **Description:** Contains raw data related to the supply chain, including product types, availability, lead times, supplier information, and shipping details.

3. Tools and Software:

- Microsoft Power BI: Used for data transformation, table creation, and visualization.

4. Steps Followed:

Step 1: Understanding Requirements

- Analysed the Word document to identify the fields required for each table.
- Mapped the fields from the CSV file to the required table structures.

Step 2: Data Import

- Imported the CSV file into Power BI for processing.

Step 3: Table Creation

- **Inventory Table:**
    - **Fields:** Product Type, SKU, Availability, Number of Products Sold, Customer Demographics, Stock Levels, Lead Times, Order Quantities, Revenue Generated.
    - **Transformation:** Filtered relevant columns and ensured data consistency.

- **Manufacturing Table:**
    - **Fields:** Product Type, SKU, Production Volumes, Manufacturing Lead Time, Manufacturing Costs, Inspection Results, Defect Rates.
    - **Transformation:** Extracted manufacturing-related data from the CSV.
- **Supplier Table:**
    - **Fields:** Supplier Name, Location, Lead Time, Transportation Modes, Routes.
    - **Transformation:** Filtered supplier information and ensured proper relationships.
- **Supply Chain Table:**
    - **Fields:** Product Type, SKU, Price, Availability, Number of Products Sold, Revenue Generated, Customer Demographics, Stock Levels, Lead Times, Order Quantities, Shipping Times, Shipping Carriers, Shipping Costs, Supplier Name, Location, Transportation Modes, Routes.
    - **Transformation:** Combined relevant data from the other three tables.

Step 4: Data Transformation

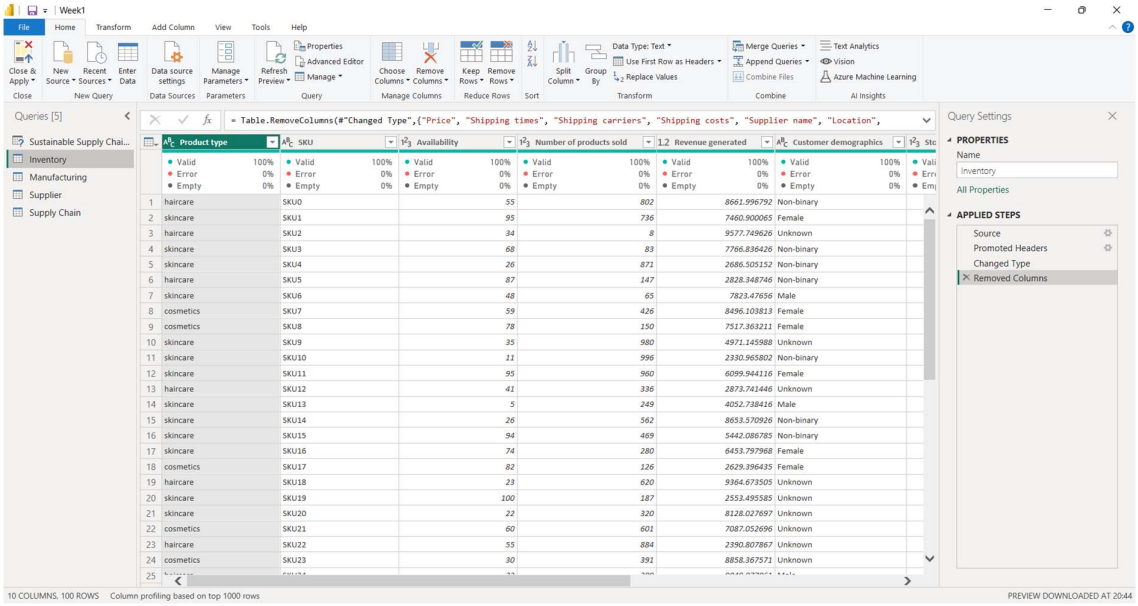
- Cleaned and filtered data for:
    - Removing duplicates.
    - Ensuring consistent data formats (e.g., dates, numbers).

Step 5: Validation

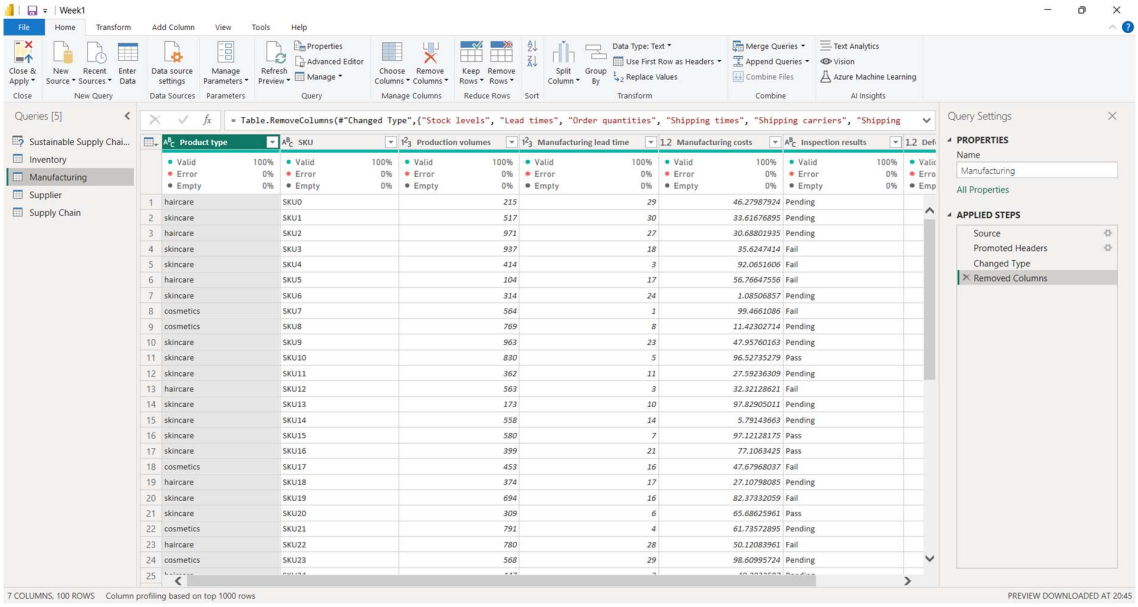
- Verified data integrity and ensured relationships between tables were correctly established.
- Checked the accuracy of field mappings.

5. Screenshots:

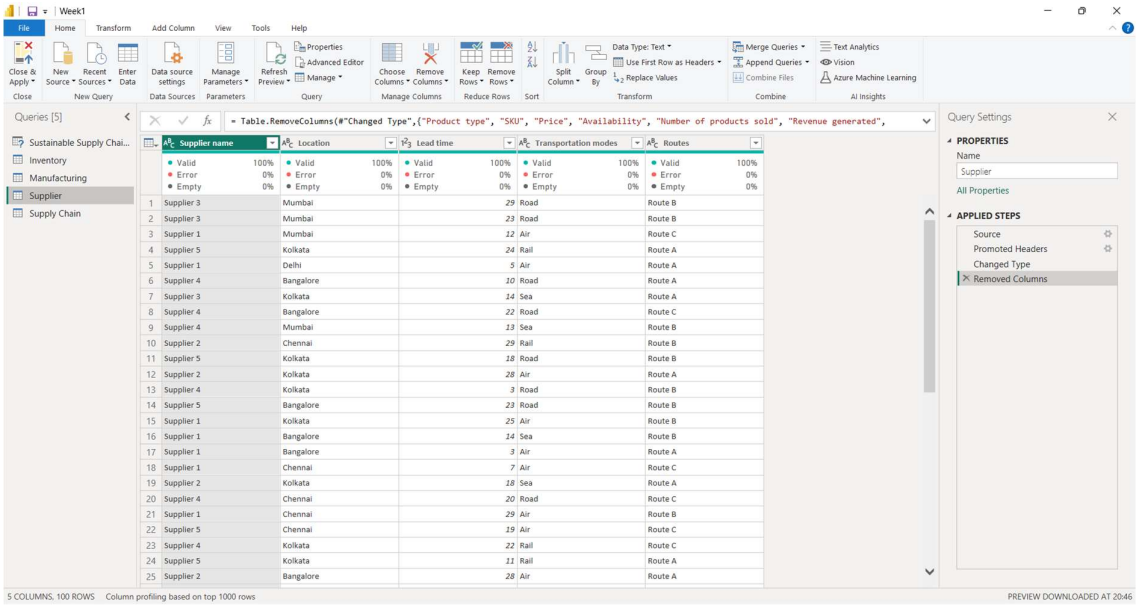
1. Inventory Table: Includes key inventory metrics such as stock levels and lead times.



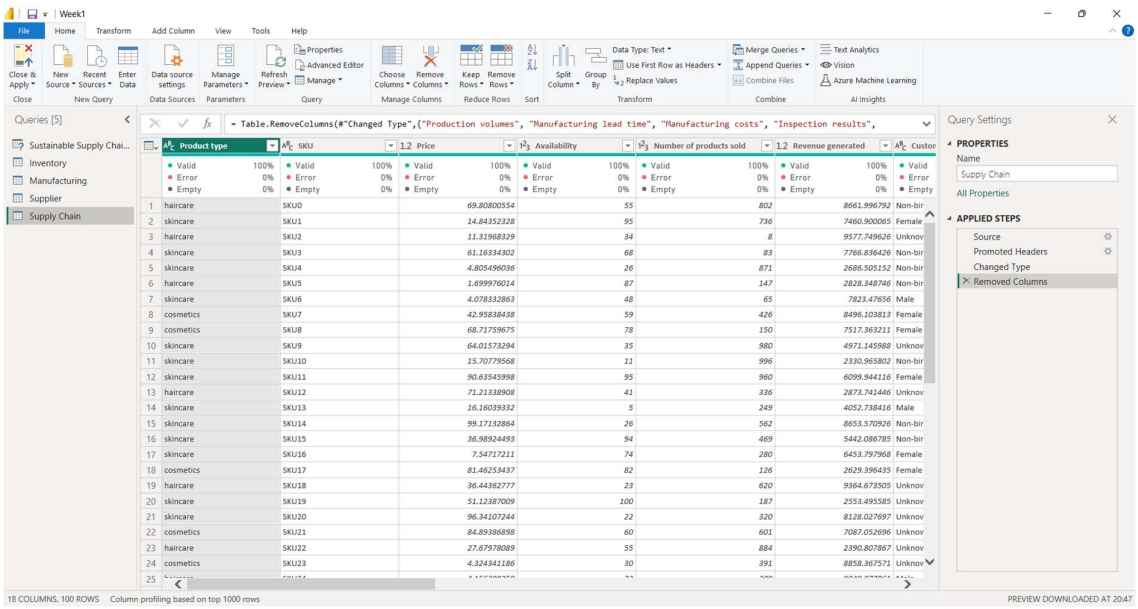
2. Manufacturing Table: Details manufacturing volumes, costs, and defect rates.



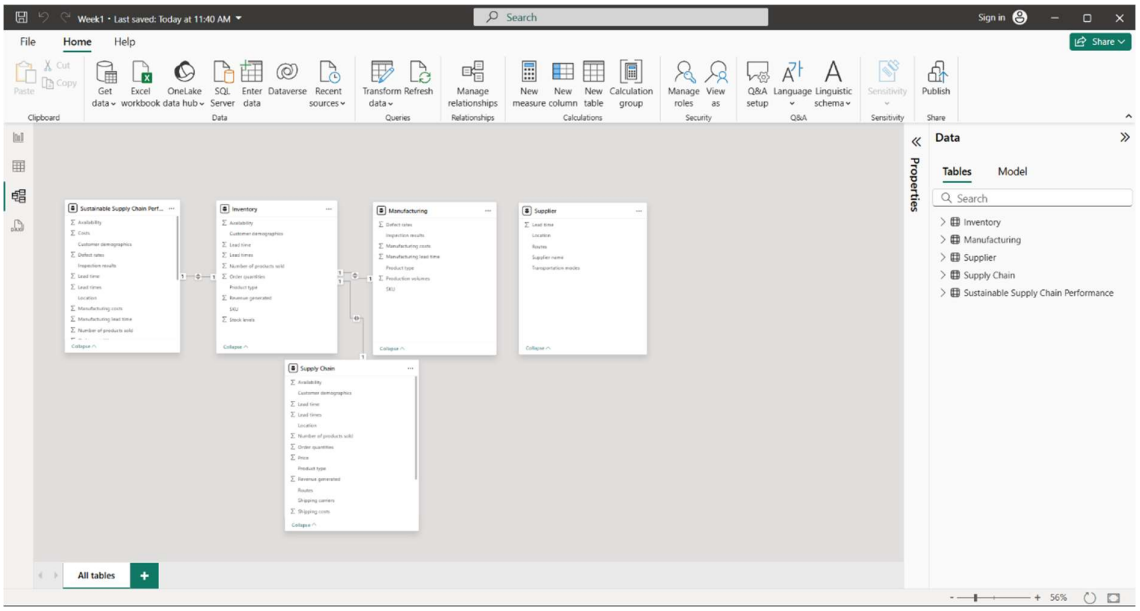
3. Supplier Table: Contains supplier-related details such as routes and transportation modes.



4. Supply Chain Table: Consolidates data from Inventory, Manufacturing, and Supplier tables.



5. Output:



Conclusion:

In Week-1, I successfully created structured tables from the given CSV file as per the requirements outlined in the Word document. These tables are ready for further analysis in Week-2. Screenshots and the Week1.pbix file have been included for reference in GitHub Repository