Analysis for BrightLearn Coffee Shop

This project aims to extract, analyze, and visualize sales performance for Bright Coffee Shops across multiple locations. The end goal is to generate a comprehensive executive report and dashboard that communicates key insights and recommendations for business growth.

OBJECTIVES:

- Data Loading and Wrangling in Snowflake
- Data Manipulation and Analysis in SQL
- Create Data Presentation of Visuals in Excel
- Compile Report for CEO on Canva

To Report for Bright Coffee Shop

1. **Store Performance**
   - Revenue & volume by store
2. **Product Analysis**
   - Category and type breakdown
3. **Time-Based Trends**
   - Sales by day of week, hour
4. **Actionable Insights**
   - Underperforming products to discontinue
   - Product Category Innovation Focus – Based on Sales Volume Analysis

---

Bright Coffee Shop

Data Extraction

1. **Data Source**
   The raw data is collected from multiple business systems, including:
   - Point-of-Sale (POS) Systems at each store (captures sales, time, product, and transaction data)

2. **Data Processing**
   ETL Stages
   - Extract:
     - From CSV file
   - Load:
     - Transformed data is loaded into the central data warehouse (Snowflake)
   - Transform:
     - Transformed in Snowflake

3. **Data Storage – Snowflake**
   All structured data will be stored in Snowflake,
   I will use SQL for data manipulation.

4. **Data Analysis and Presentation**
   Data is analyzed and visualized using:
   - Pivot Tables in Excel (for deep dives and ad hoc summaries)
   - Automated Reports will be done on CANVA

   Output Reports for the CEO will be:
   1. Store Performance
   2. Product Analysis
   3. Time-Based Trends
   4. Actionable Insights

Data Wrangling

Data Extraction

- Convert transaction date to date time format.
- Create new columns:
  - Revenue
  - Extract time, month, spender and day bucket for trend analysis
- Find peak sales hours by aggregating total revenue per hour of the day.
- Analyze monthly sales trends by grouping sales by transaction month.
- Track revenue per product category across each month bucket

---

Data Processing

- **Sales performance**
  - Total revenue per store
  - Best and worst performing products
  - Sales trends over time (daily/weekly/monthly)
- **Customer behavior**
  - Average quantity per transaction
  - Peak hours and popular days
- **Product insights**
  - Most popular product categories and types
  - Revenue by product category
- **Store comparison**
  Store-wise sales, volume, and product preferences

Data Visualization

- **Sales performance**
  - Total revenue per store
  - Best and worst performing products
  - Sales trends over time (daily/weekly/monthly)
- **Customer behavior**
  - Peak hours and popular days
- **Product insights**
  - Most popular product categories and types
  - Revenue by product category
- **Store comparison**
  Store-wise sales, volume, and product preferences