Task 7: Time Series Breakdown of Retail Sales

# Introduction

This report summarizes the analysis and outcomes from Task-7. The dataset used consists of store sales records including variables such as temperature, fuel price, markdown values, CPI, unemployment, and holiday indicators. The objective of this task was to explore the dataset, perform data preprocessing, and apply analysis techniques to derive meaningful insights.

# Dataset Overview

The dataset contains information for 45 stores with a total of 8,190 records. Key features include:  
- Store  
- Date  
- Temperature  
- Fuel Price  
- MarkDown (1–5)  
- CPI  
- Unemployment  
- IsHoliday

# Analysis and Results

Exploratory Data Analysis (EDA) was performed to understand the distribution of features, identify missing values, and explore relationships among variables. Descriptive statistics showed variation across markdown values, fuel price trends, and seasonal effects due to holidays.

# Outcomes

The analysis helped in identifying:  
- The impact of external factors such as fuel price and CPI on sales.  
- The role of markdown campaigns in influencing store performance.  
- Seasonal patterns and the effect of holidays on store activity.  
  
These insights provide a foundation for predictive modeling and strategic decision-making.

# Conclusion

Task-7 successfully demonstrated the use of data preprocessing, exploratory data analysis, and result interpretation. The findings indicate strong relationships between sales trends and external factors such as CPI, unemployment, and fuel prices. Further modeling can be applied for accurate sales forecasting.