



Python Data Analysis Project – Diwali Sales Analysis

✓ Objective:

To analyze a real-world Diwali sales dataset using Python and perform Exploratory Data Analysis (EDA) to uncover key insights that can help improve business performance.

🛠 Tools & Libraries Used:

1. Python with Jupyter Notebook
2. Pandas for data manipulation
3. NumPy for numerical operations
4. Matplotlib & Seaborn for data visualization

📁 Dataset Description:

- Contains transaction-level sales data including features like:
 - Customer Age, Gender, Occupation, Marital Status
 - Product Category, Amount Spent, and City Tier

🔍 Key Analysis Performed:

1. Data Cleaning: Removed null values and handled incorrect entries.
2. Data Transformation: Filtered relevant columns and encoded categorical data.
3. Exploratory Analysis:
 - Most purchasing age group: 26-35
 - Highest spenders: Married women in metro cities
 - Top-selling categories: Electronics and Clothing
 - Gender-wise sales: Males contributed more in number, females had higher spend per order



Insights & Business Impact:

- Marketing campaigns can be targeted toward urban, married women aged 26-35
- Bundling offers in Electronics and Clothing can boost sales
- Optimize inventory in Tier-1 cities before festive seasons



Conclusion:

This project demonstrates how basic EDA with Python can provide actionable insights for festive retail sales. It is ideal for beginners in Data Analytics and showcases the power of Python in real-world business analysis.