**Diwali Sales Data Analysis**

**📌 Project Overview**

This project focuses on **Exploratory Data Analysis (EDA)** of Diwali sales data using Python libraries such as **Pandas, NumPy, Matplotlib, and Seaborn**. The goal is to extract meaningful insights from sales patterns, customer demographics, and purchasing behavior to aid business decision-making.

**🎯 Objectives**

* Clean and preprocess Diwali sales data.
* Analyze customer demographics (age, gender, location) and spending patterns.
* Identify top-selling products and revenue distribution.
* Visualize trends in sales and customer preferences using **Seaborn and Matplotlib**.

**📊 Features**

* **Data Cleaning & Preprocessing**: Handling missing values, formatting columns, and data type conversion.
* **Customer Insights**: Understanding customer demographics and purchase trends.
* **Sales Performance Analysis**: Identifying high-revenue products and categories.
* **Data Visualization**: Creating insightful charts to represent sales trends.

**🛠️ Tech Stack**

* **Python**: Data analysis and visualization.
* **Pandas & NumPy**: Data manipulation and numerical operations.
* **Matplotlib & Seaborn**: Data visualization and statistical plotting.
* **Jupyter Notebook**: Interactive coding environment.

**📌 Future Improvements**

* Incorporate machine learning models for sales forecasting.
* Interactive dashboards using **Power BI** or **Streamlit**.
* More detailed customer segmentation analysis.