PROJECT REPORT

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Diwali Sales Analysis

INTRODUCTION

Diwali Sales Analysis is the method of exploring and analyzing sales data recorded or collected over a ***set period of time***. This technique is used to analyze values and give analysis based on gender, product, state and their orders.
Diwali sales analysis gives a way to analyze the future. It is essential in engineering, finance, business, and the economy to make it easy for investors, customers, or engineers to make the proper decisions.

For analysing data ,here we use two different tools:

1. **Matplotlib:** Matplotlib is a versatile and powerful tool for data visualization in Python and is commonly used for tasks ranging from simple exploratory data analysis to creating complex, publication-ready figures. It provides users with the flexibility to create visuals that suit their specific needs, making it a valuable asset for data scientists, researchers, and analysts.

2. **Seaborn:** Seaborn is an excellent choice for data analysts and scientists who want to create visually appealing and informative plots with minimal effort. It simplifies the process of creating complex statistical visualizations and enhances the quality of data exploration and presentation. Its integration with Pandas and Matplotlib makes it a valuable addition to the Python data visualization ecosystem.

2. OBJECTIVES AND SCOPE

Our main objective is to analysis on diwali sales data and give insights in a webpage.
There are two main goals of diwali sales analysis:

- *Analysis on sales data*.
- *Give insights in a webpage.*

SCOPE

Diwali Sales Analysis is used in ecommerce to give insights the market trends during sales. Small Stores also use these insights to analyze sales and units sold for different products.

3. Resources (Hardware & Software)

1. Hardware Requirements

Client Side

Processor	Dual Core or above
RAM	1 GB
Disk space	150 GB
Screen Resolution	1080p or less
Others	Keyboard, mouse, Internet Connection

Server Side

Processor	Dual Core or above
RAM	1 GB
Disk space	150 GB
Screen Resolution	1080p or less
Others	Keyboard, mouse, Internet Connection

2. Software Requirements

Client Side

- Web Browser (Google Chrome, Firefox, Edge or above)
- Windows 7 or above / Linux / Android / IOS

Server Side

- Web Browser (Google Chrome, Firefox, Edge or above)
- Windows 7 or above / Linux / Android / IOS
- VScode
- Python 3.9 and Html, CSS, Bootstrap

4. Project Schedule Plan:

The objective of Software Planning is to provide a framework that enables the manager to make reasonable estimates of resources, cost, and schedule. These estimates are made within a limited time frame at the beginning of a software project and should be updated regularly as the project progresses. In addition, estimates should attempt to define best case and worst case scenario so that project outcomes can be bounded.

A Gantt chart is a popular type of chart that illustrates a project schedule. Gantt Chart illustrates the start and finish dates of the terminal elements and summary elements of a project. Terminal element and summary comprise the work breakdown structure of the project.

Task	01Oct-03Oct	04Oct-05Oct	06Oct-07OCt	08Oct-09Oct	09Oct-10Oct	10Oct-11Oct
Develop project proposal	03 days					
Analysis		2 days				
Designing			2 days			
Coding				2 days		
Unit Testing					1 day	
Implementation						1 day

Gantt Chart

5. Project Team:

Instructor	:	Narendra Jha Sir
Project Team Members	:	Ayush Srivastava
		Gaurav Tiwari
		Pranjal Mishra

6. Process Description

1. **Data pre-processing:** This module is used to analyse the data, checks its validity and removes the incorrect data. Make the data in format for further analysis.

2. **Data Analysis:** This module defines different types of graphical representation for the sales. It gives the user flexibility to represent data in different graphical form.

3. **View Display:** This module shows the output insights to user. It's a webpage to view insights according to analysis on sales. User is here small businesses, whole sellers, startups.

7. Contribution of the student in the project:

1. **Ayush Srivastava:** Data Preprocessing.
2. **Pranjal Mishra:** Exploratory Data Analysis.
3. **Gaurav Tiwari:** View Display.

8. Conclusion:

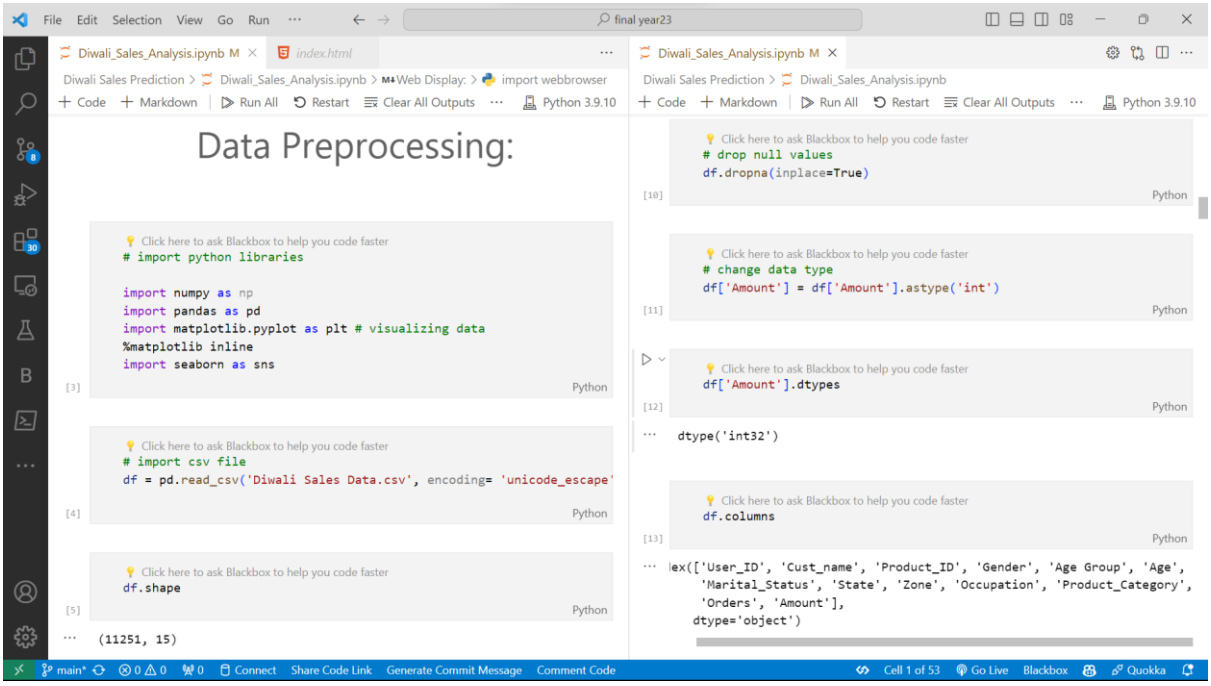
- At the end businesses have an idea about their sales according to orders and products using diwali sales analysis.
- Diwali remains a crucial period for businesses to boost sales, with a significant impact on annual revenue.
- The shift towards e-commerce, the popularity of certain product categories, and effective marketing strategies are some of the key factors driving success during this festive season.
- Understanding regional variations and evolving consumer's behaviour is essential for businesses looking to capitalize on the Diwali sales opportunity.
- Additionally, sustainability and eco-friendliness are emerging as important considerations for both retailers and consumers during this festive season.

Conclusion:

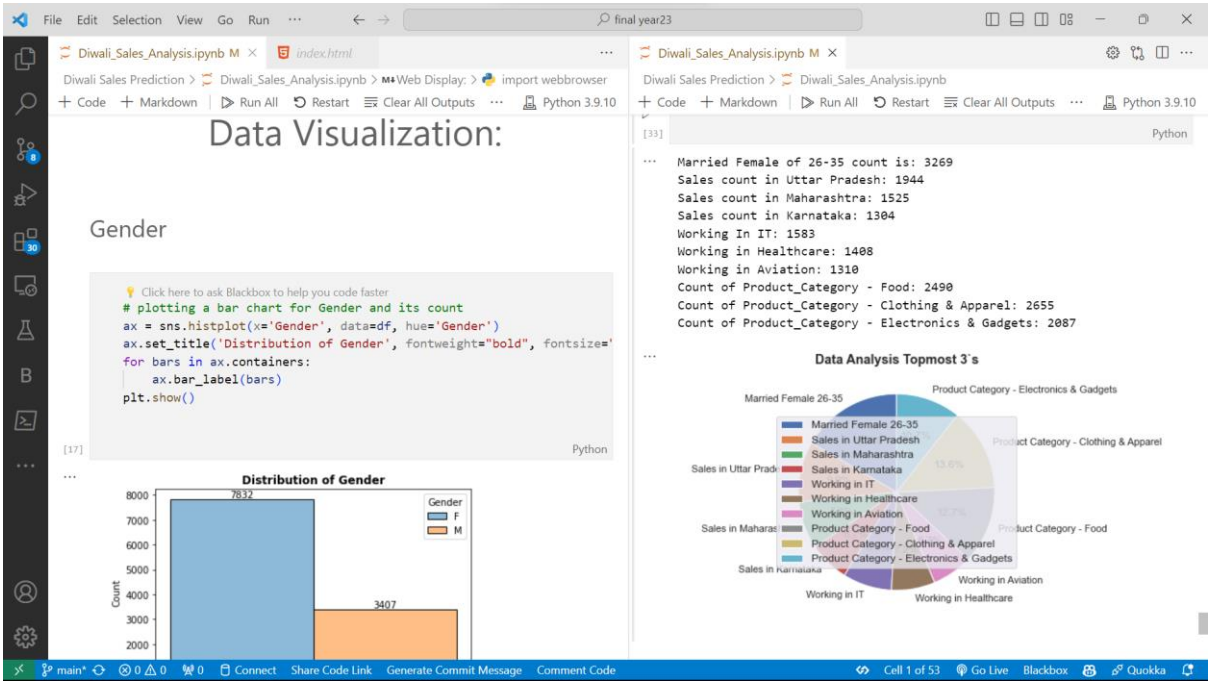
Analysis	Most
Mostly Buyers	Age:26-35, Gender:Female, Married
State	UP, Maharastra, Karnataka
Working	IT, Healthcare, Aviation
Product category	Food, Clothing, Electronics

9. Project Screenshots:

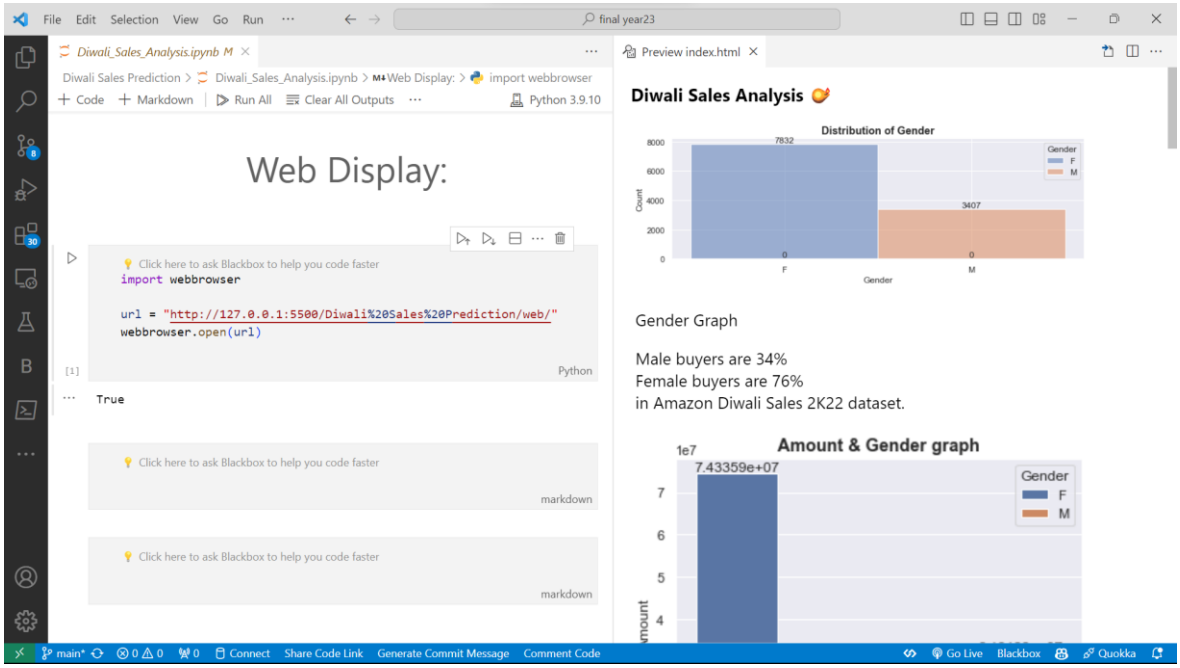
Data Preprocessing:

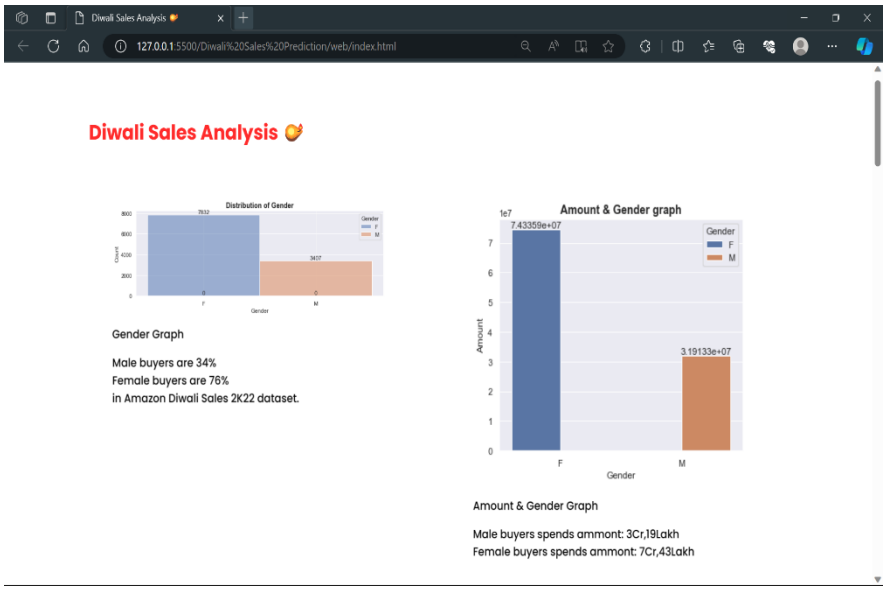


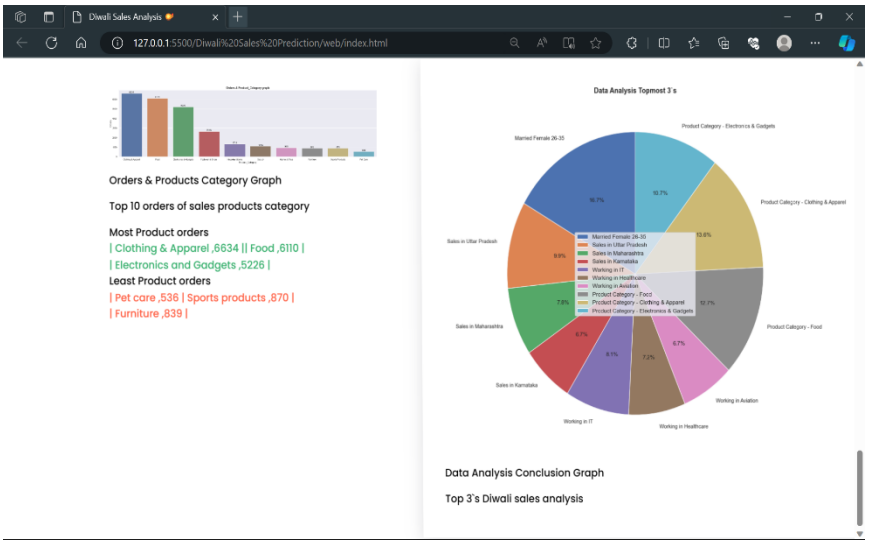
Data Visualization:



Web Display:


Diwali_Sales_Analysis.ipynb M
Diwali Sales Prediction > Diwali_Sales_Analysis.ipynb > Web Display: > import webbrowser
+ Code + Markdown Run All Clear All Outputs Python 3.9.10
Web Display:
Click here to ask Blackbox to help you code faster
import webbrowser
url = "http://127.0.0.1:5500/Diwali%20Sales%20Prediction/web/"
webbrowser.open(url)
Python
[1]
True
Click here to ask Blackbox to help you code faster
markdown
Click here to ask Blackbox to help you code faster
markdown
Preview index.html
Diwali Sales Analysis
Distribution of Gender
Gender
Gender Graph
Male buyers are 34%
Female buyers are 76%
in Amazon Diwali Sales 2K22 dataset.
Amount & Gender graph
1e7
7.43359e+07
Gender
F
M
main*
Connect
Share Code Link
Generate Commit Message
Comment Code
Go Live
Blackbox
Quokka


Diwali Sales Analysis
127.0.0.1:5500/Diwali%20Sales%20Prediction/web/index.html
Diwali Sales Analysis
Distribution of Gender
Gender Graph
Male buyers are 34%
Female buyers are 76%
in Amazon Diwali Sales 2K22 dataset.
Amount & Gender graph
1e7
7.43359e+07
3.19133e+07
Gender
F
M
Amount
Amount & Gender Graph
Male buyers spends ammont: 3Cr,19Lakh
Female buyers spends ammont: 7Cr,43Lakh


Diwali Sales Analysis
127.0.0.1:5500/Diwali%20Sales%20Prediction/web/index.html
Orders & Products Category Graph
Top 10 orders of sales products category
Most Product orders
| Clothing & Apparel ,6634 || Food ,6110 |
| Electronics and Gadgets ,5226 |
Least Product orders
| Pet care ,536 | Sports products ,870 |
| Furniture ,839 |
Data Analysis Topmost 3`s
Data Analysis Conclusion Graph
Top 3`s Diwali sales analysis

10. Bibliography:

- Bootstrap for designing (Introduction · Bootstrap v5.0 (getbootstrap.com))
- Kaggle for dataset (Diwali Sales Analysis (kaggle.com))
- Official Pandas documentation for project dataframe (User Guide — pandas 2.1.4 documentation (pydata.org))
- Official matplotlib documentation for project graphs (Using Matplotlib — Matplotlib 3.8.2 documentation)
- Official seaborn documentation for project charts (User guide and tutorial — seaborn 0.13.1 documentation (pydata.org))
- Official copilot documentation for project (Step-by-Step: How to Setup Copilot Chat in VS Code (microsoft.com))