Description

- ❖ **In folder Called (Python and SQL Analysis) have all csv file I used to import data in MySQL Workbench and Jupyter notebook containing my code with name**
  - **Python & SQL for Data Analysis.ipynb**
  - **And screen shot from Workbench After imported and Retrieve All Tables**

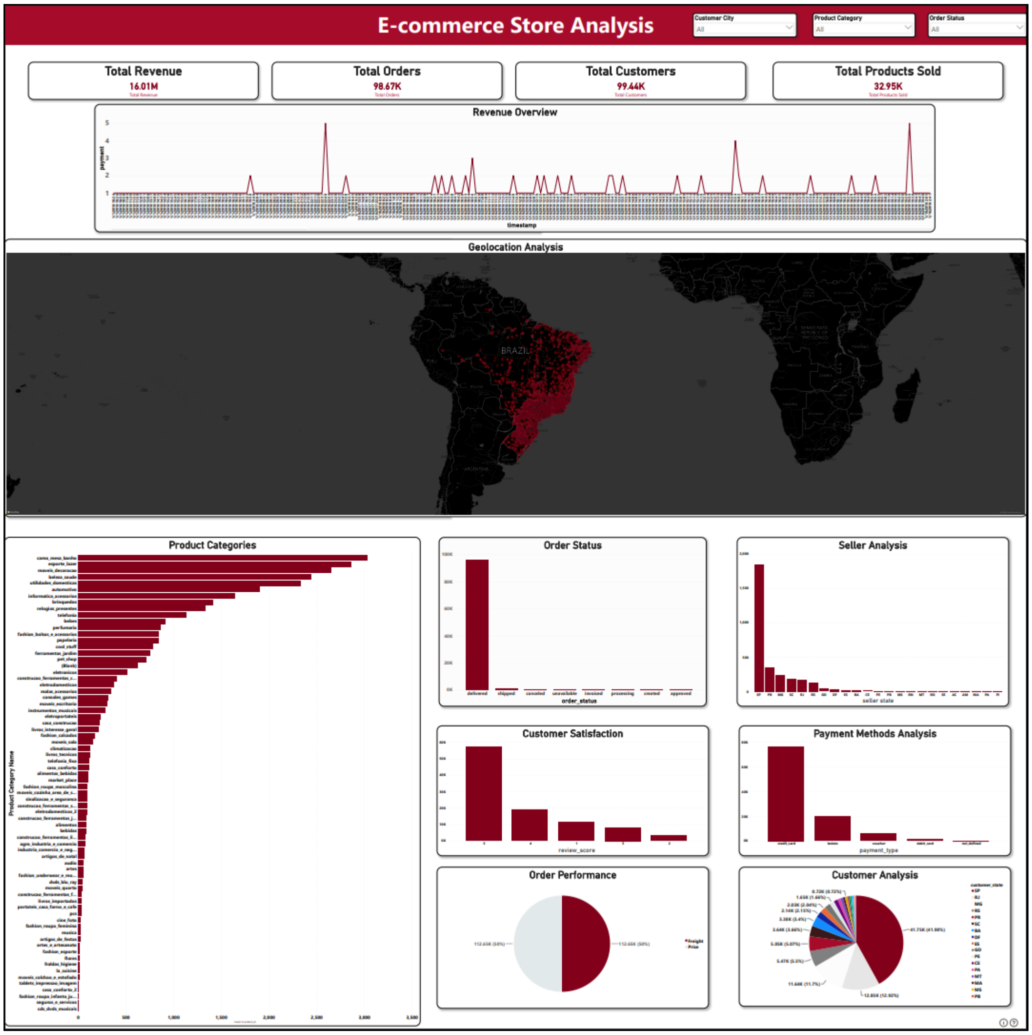
Python & SQL for Data Analysis:

- **Python script to import the data in MySQL database.**
- **Retrieve data from the created database using SQL queries.**
- **Perform exploratory data analysis (EDA) using Python.**
- **Clean and preprocess the data as necessary.**
- **Apply statistical analysis and present key insights.**
- **Submit a Jupyter notebook containing your code, comments, and visualizations.**

- **In folder Called (Power BI) Power BI file Called (E-commerce Analysis.pbix) and I Exported Dashboard as pdf in same file Called (E-commerce Analysis.pdf)**

Power BI:

- **Load the data from the created database with the appropriate connector.**
- **Build a data model for the extracted data.**
- **Design a Power BI dashboard that provides meaningful insights from the data.**
- **Utilize appropriate visualizations (charts, graphs, etc.).**
- **Submit the Power BI file along with a brief explanation of your design choices.**



E-commerce Store Analysis

Customer City: All
Product Category: All
Order Status: All

Total Revenue 16.01M
Total Orders 98.67K
Total Customers 99.44K
Total Products Sold 32.95K

- **Flask Web Application:**

- Flask application represents a simple dashboard for analyzing data from a fictional e-commerce platform

Overview of the application:

- Importing Dependencies: The required Python libraries, such as Flask, MySQL Connector, Pandas, Matplotlib, HTTPBasicAuth, session, are imported.

- Creating the Flask App: An instance of the Flask app is created, along with an instance of the HTTPBasicAuth class for handling basic authentication.

- Setting Up the MySQL Connection: The MySQL database connection details, including the host, port, username, password, and database name, are provided. A connection is established to the MySQL database using these details.

- Executing Database Queries: Several SQL queries are executed to fetch the necessary data from the database. The results of these queries are stored in Pandas Data Frames.

- Defining User Authentication: A sample user dictionary (USERS) is created with a username and password for authentication. The verify password function is defined as the callback function for HTTP basic authentication. It verifies the provided credentials against the user dictionary.

Defining Routes:

- /(root route): This route handles the login functionality. If the request method is POST, it checks the provided username and password against the user dictionary. If the credentials are valid, it stores the username in the session and redirects to the dashboard. If the credentials are invalid, it renders the login page with an error message. If the request method is GET, it renders the login page.

- /logout: This route handles the logout functionality. It removes the username from the session and redirects to the login page.

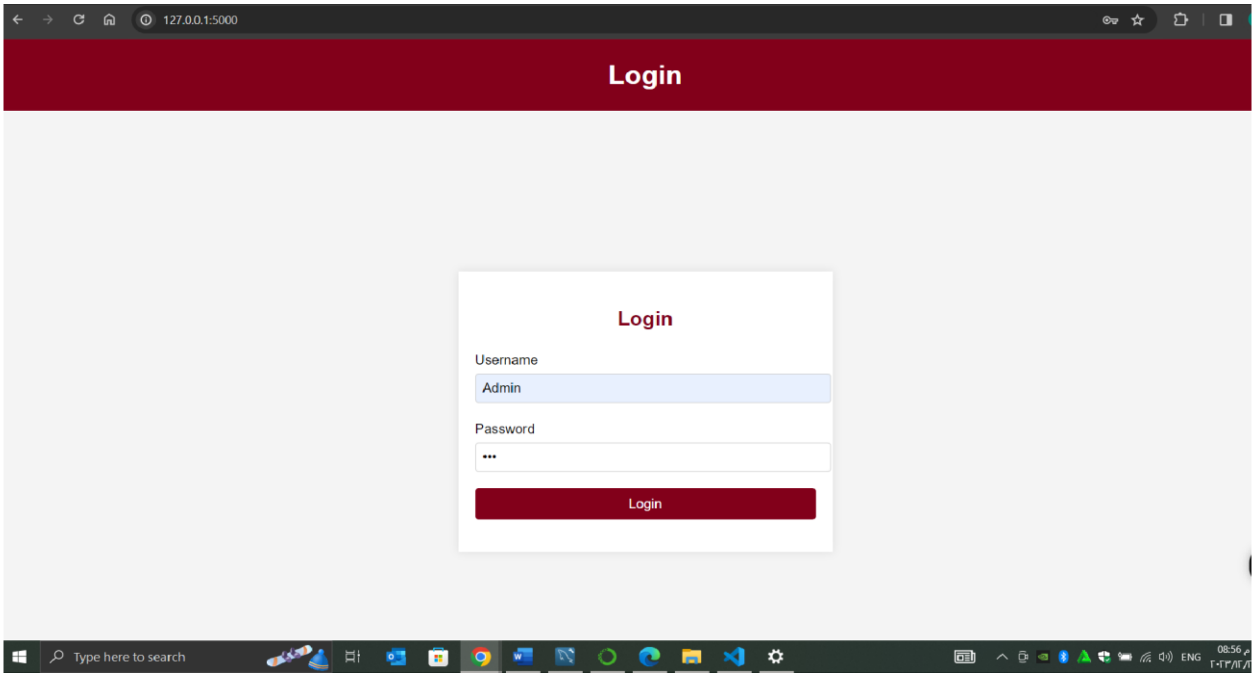
- /dashboard: This route displays the dashboard. It uses the @auth.login_required decorator to ensure that only authenticated users can access the dashboard. Within this route, various data visualizations are created using Matplotlib and saved as static images. These visualizations include stacked bar charts, pie charts, and bar charts for analyzing order status, product categories, customer analysis, seller analysis, customer satisfaction, payment methods, average order value by product category, and top sellers by total sales. The rendered dashboard.html template includes these visualizations.

- /data: This route displays sample data from various database tables. It executes SELECT queries on different tables and stores the results in a dictionary. The data.html template is rendered, which displays the data in a tabular format.

I provided Readme.txt file to Describe how to run the Flask application locally

Screen shots:

- **Login Page** Username is **Admin** Password is **123**



127.0.0.1:5000

Login

Login

Username

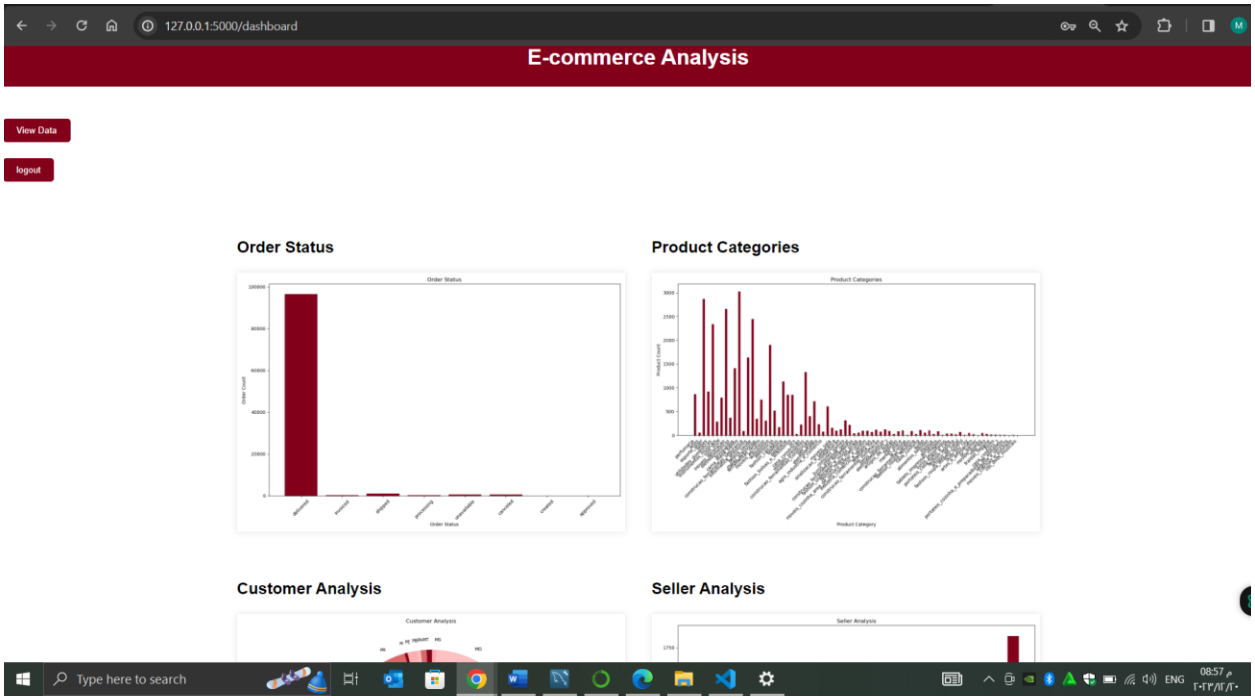
Admin

Password

•••

Login

- ## Dashboard Page



127.0.0.1:5000/dashboard

E-commerce Analysis

View Data

logout

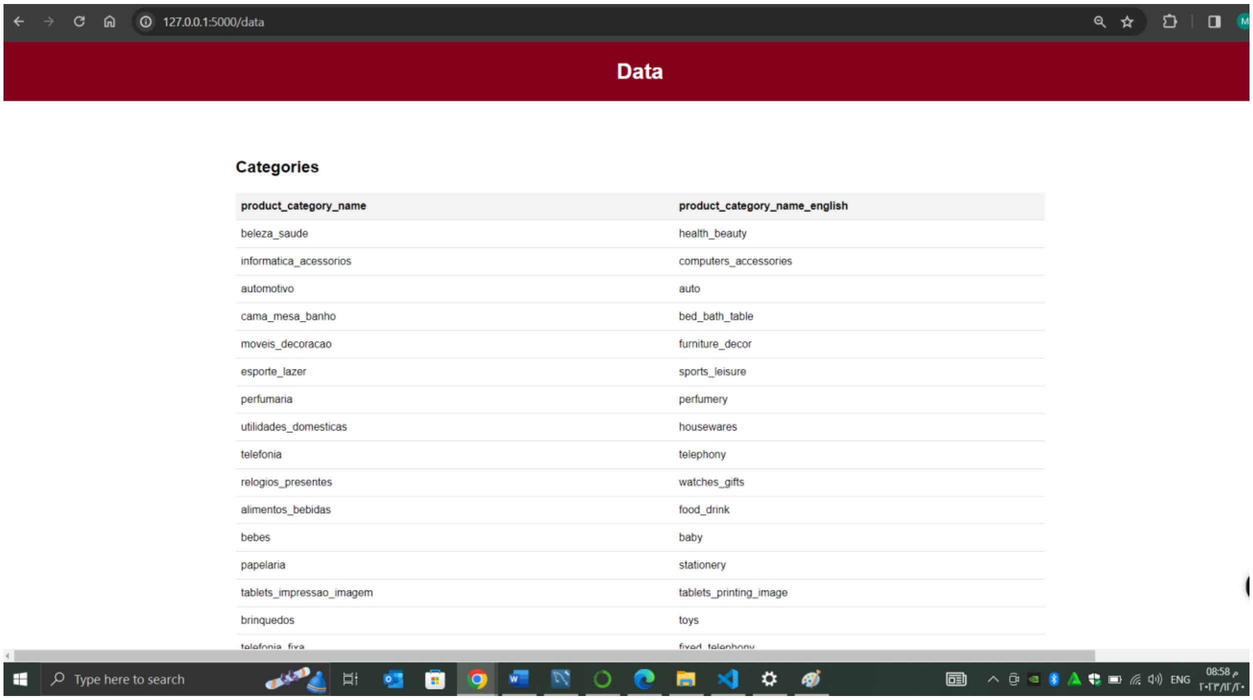
Order Status

Product Categories

Customer Analysis

Seller Analysis

- ## Data Page



127.0.0.1:5000/data

Data

Categories

product_category_name	product_category_name_english
beleza_saude	health_beauty
informatica_acessorios	computers_accessories
automotivo	auto
cama_mesa_banho	bed_bath_table
moveis_decoracao	furniture_decor
esporte_lazer	sports_leisure
perfumaria	perfumery
utilidades_domesticas	housewares
telefonia	telephony
relogios_presentes	watches_gifts
alimentos_bebidas	food_drink
bebes	baby
papelaria	stationery
tablets_impressao_imagem	tablets_printing_image
brinquedos	toys
telefonia_fixa	fixed_telephony