CUSTOMER MANAGEMENT SYSTEM

What is a Customer management system ?
CMS focuses on organizing, storing, retrieving, and managing data efficiently. It's a web application on a local area network.

🧩 Features Implemented in this System:

1. 📋 Customer Registration:
   - Name, address, phone, username, and password.
   - Stores data in the `customer` table.

2. 🔐 Login System:
   - Admin login and Customer login (separate roles).
   - Session state used to manage authentication.

3. 👨‍💼 Admin Panel:
   - 👥 Manage Customers: View, Add, Delete
   - 📦 Manage Products: View, Add, Delete
   - 🛒 Manage Orders: View (with search), Add, Delete, Update Status

4. 🖥️ Dashboard:
   - Metrics for total customers, products, orders, pending/completed orders.

5. 📜 Order Management:
   - Admin can manage all orders.
   - Customers can view and place new orders.

6. 📥 CSV Download:
   - Customers can download their full order history.

7. ⭐ Feedback System:
   - Customers can submit feedback and rating (1-5 stars).
   - Stored in a `feedback` table (assumed created).

8. 📊 Reports / Analytics:
   - Daily Order Trends (line chart)
   - Order Status Distribution (pie chart)
   - Orders by Product (bar chart)
   - Helps Admins monitor business performance visually.

9. 📅 Date-based Order Search (Admin):

- Filter by customer name and order date range.

10. 📤 Clean UI using emojis, sectioning, rerun for dynamic changes.

Database used
MY SQL

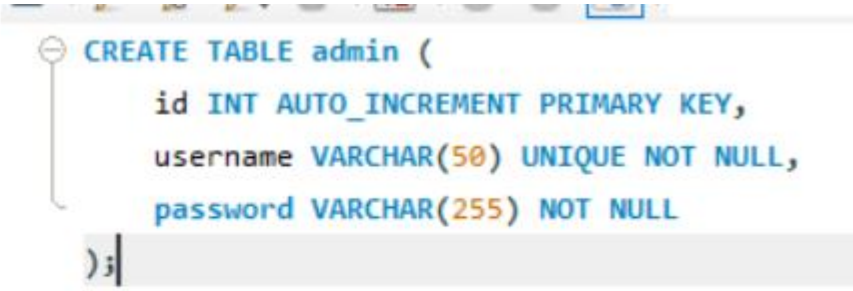
Why?

● Facilitates quick retrieval of data, eliminating the need for manual record-keeping.
● It enhances programming language, understanding basic table relationships,and boosts up the confidence skill for creating projects. in addition, helps to build strong portfolio

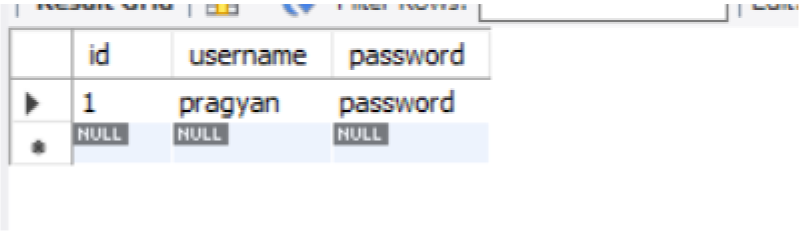
How
It consists of two things: backend and front end.
Frontend- Streamlit

Backend
My SQL , PYTHON

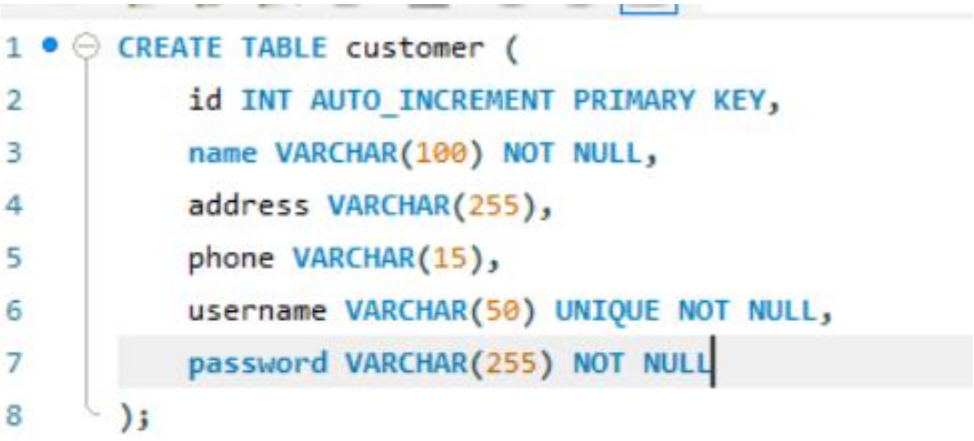
Table



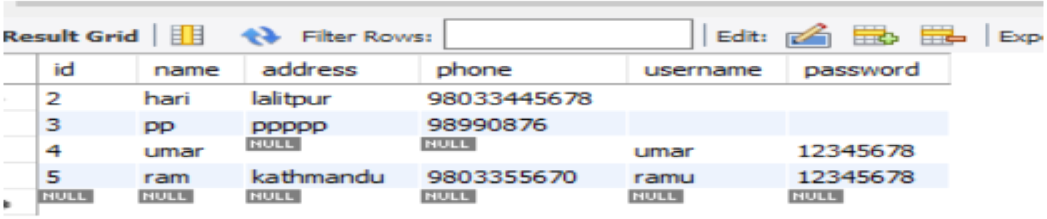
```
CREATE TABLE admin (
    id INT AUTO_INCREMENT PRIMARY KEY,
    username VARCHAR(50) UNIQUE NOT NULL,
    password VARCHAR(255) NOT NULL
);
```



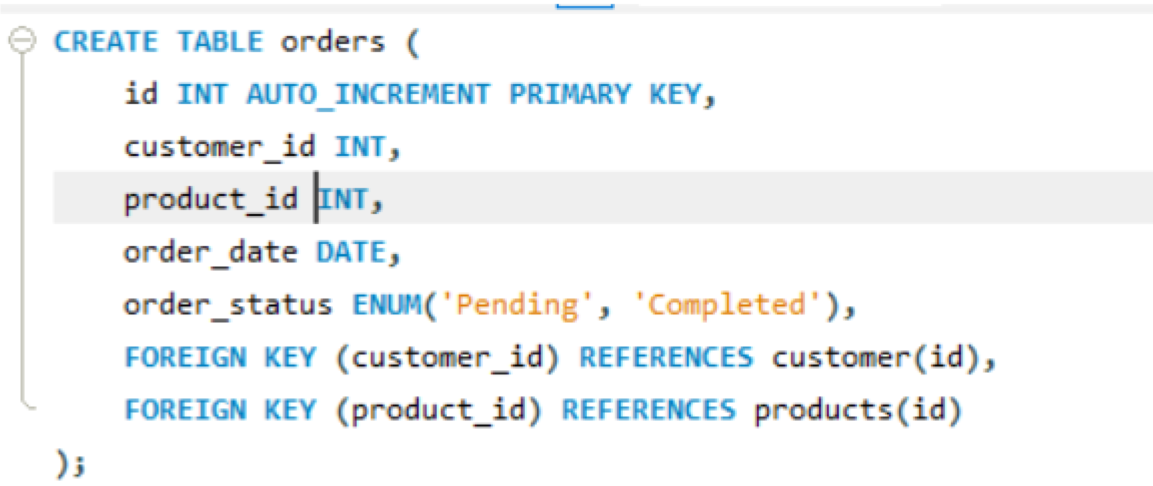
	id	username	password
▶	1	pragyan	password
●	NULL	NULL	NULL



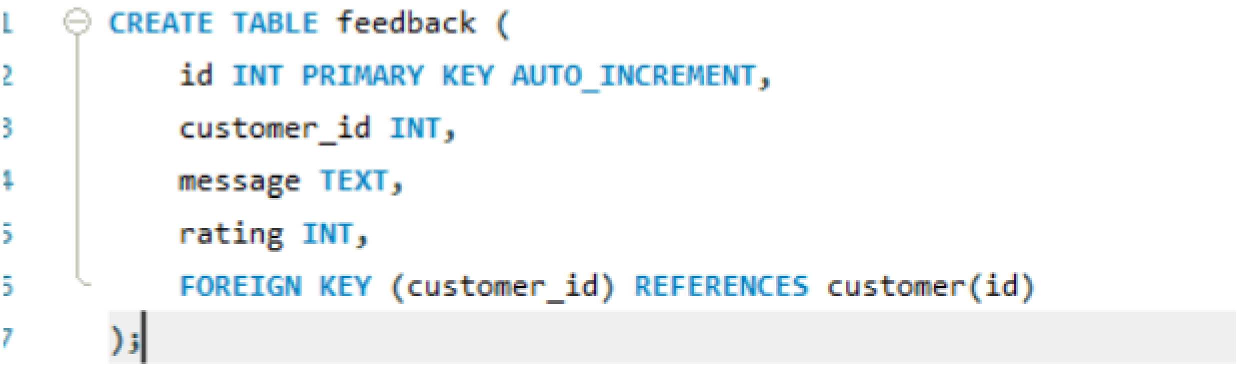
```sql
CREATE TABLE customer (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    address VARCHAR(255),
    phone VARCHAR(15),
    username VARCHAR(50) UNIQUE NOT NULL,
    password VARCHAR(255) NOT NULL
);
```



id	name	address	phone	username	password
2	hari	lalitpur	98033445678		
3	pp	ppppp	98990876		
4	umar	NULL	NULL	umar	12345678
5	ram	kathmandu	9803355670	ramu	12345678
NULL	NULL	NULL	NULL	NULL	NULL

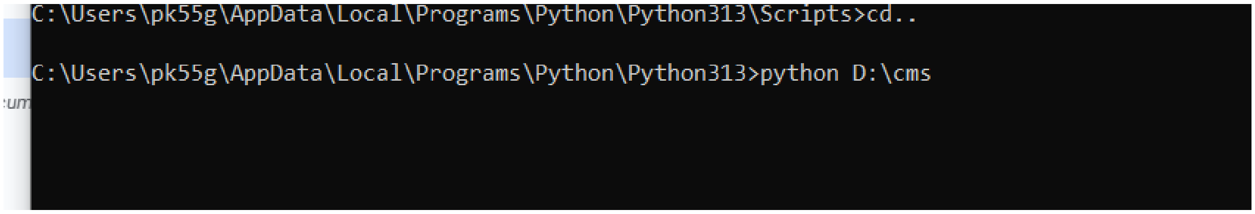


```sql
CREATE TABLE orders (
    id INT AUTO_INCREMENT PRIMARY KEY,
    customer_id INT,
    product_id INT,
    order_date DATE,
    order_status ENUM('Pending', 'Completed'),
    FOREIGN KEY (customer_id) REFERENCES customer(id),
    FOREIGN KEY (product_id) REFERENCES products(id)
);
```

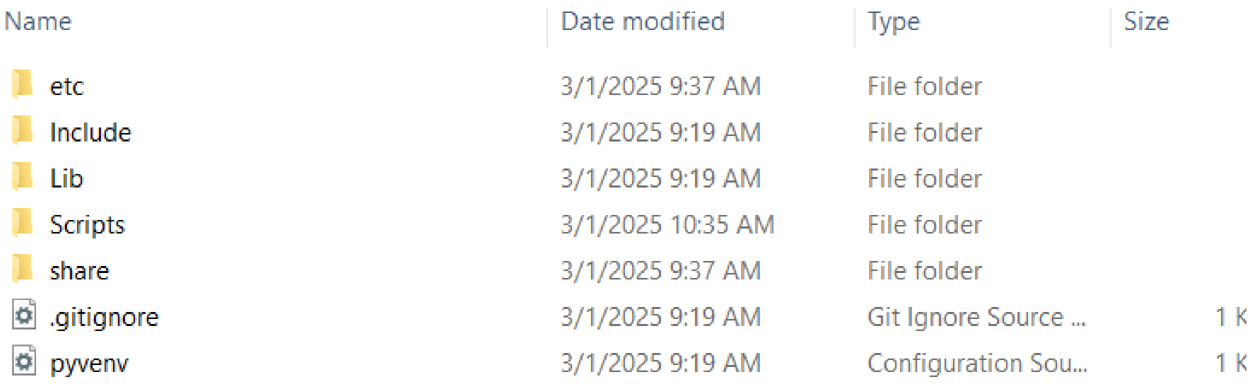


```
CREATE TABLE feedback (
    id INT PRIMARY KEY AUTO_INCREMENT,
    customer_id INT,
    message TEXT,
    rating INT,
    FOREIGN KEY (customer_id) REFERENCES customer(id)
);
```

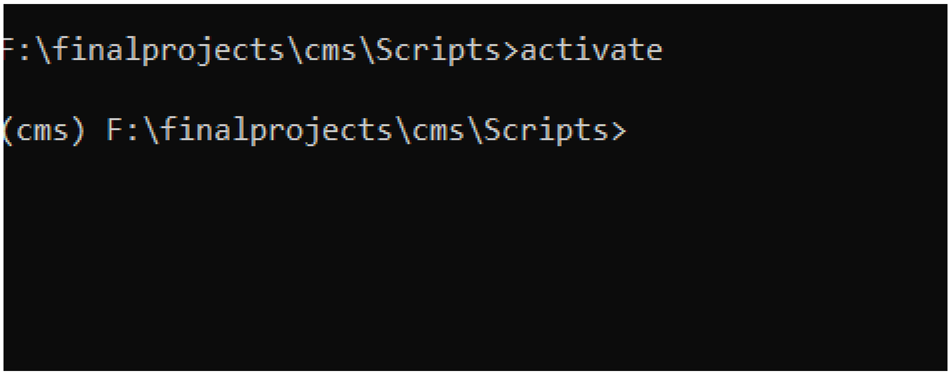
Creating virtual env for project



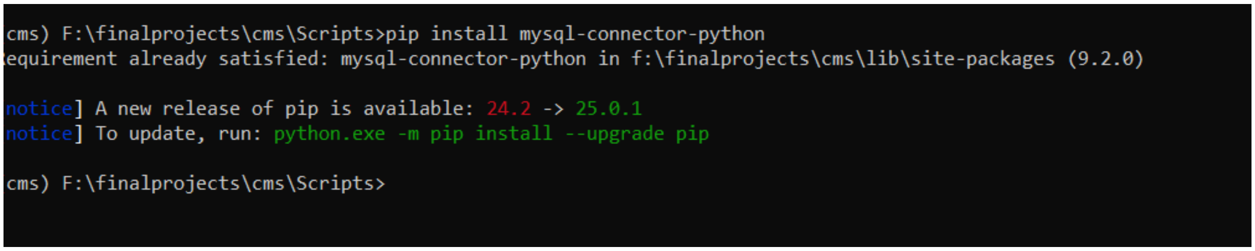
```
C:\Users\pk55g\AppData\Local\Programs\Python\Python313\Scripts>cd..

C:\Users\pk55g\AppData\Local\Programs\Python\Python313>python D:\cms
```



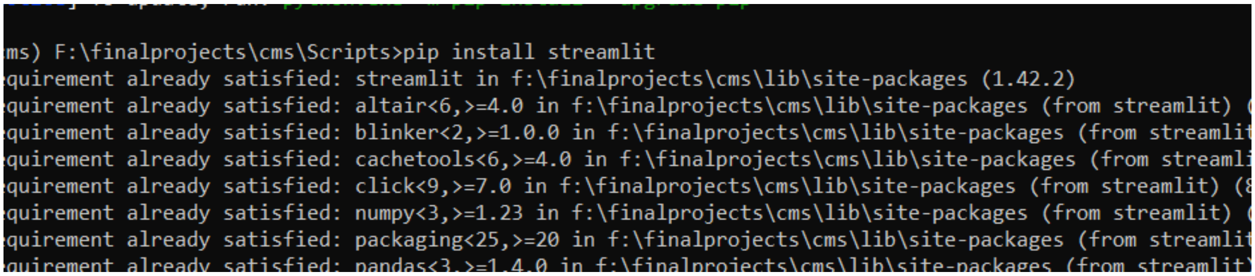
Name	Date modified	Type	Size
etc	3/1/2025 9:37 AM	File folder	
Include	3/1/2025 9:19 AM	File folder	
Lib	3/1/2025 9:19 AM	File folder	
Scripts	3/1/2025 10:35 AM	File folder	
share	3/1/2025 9:37 AM	File folder	
.gitignore	3/1/2025 9:19 AM	Git Ignore Source ...	1 K
pyvenv	3/1/2025 9:19 AM	Configuration Sou...	1 K



```
F:\finalprojects\cms\Scripts>activate

(cms) F:\finalprojects\cms\Scripts>
```

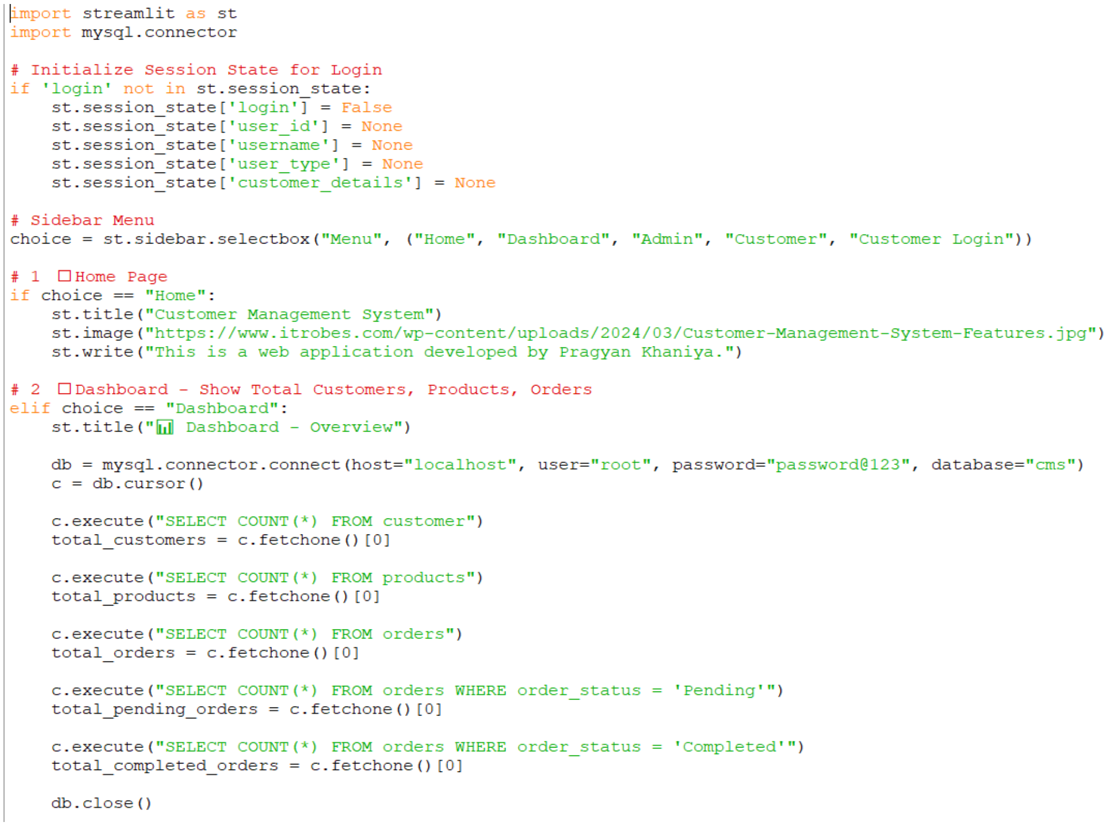


```
cms) F:\finalprojects\cms\Scripts>pip install mysql-connector-python
equirement already satisfied: mysql-connector-python in f:\finalprojects\cms\lib\site-packages (9.2.0)

notice] A new release of pip is available: 24.2 -> 25.0.1
notice] To update, run: python.exe -m pip install --upgrade pip

cms) F:\finalprojects\cms\Scripts>
```

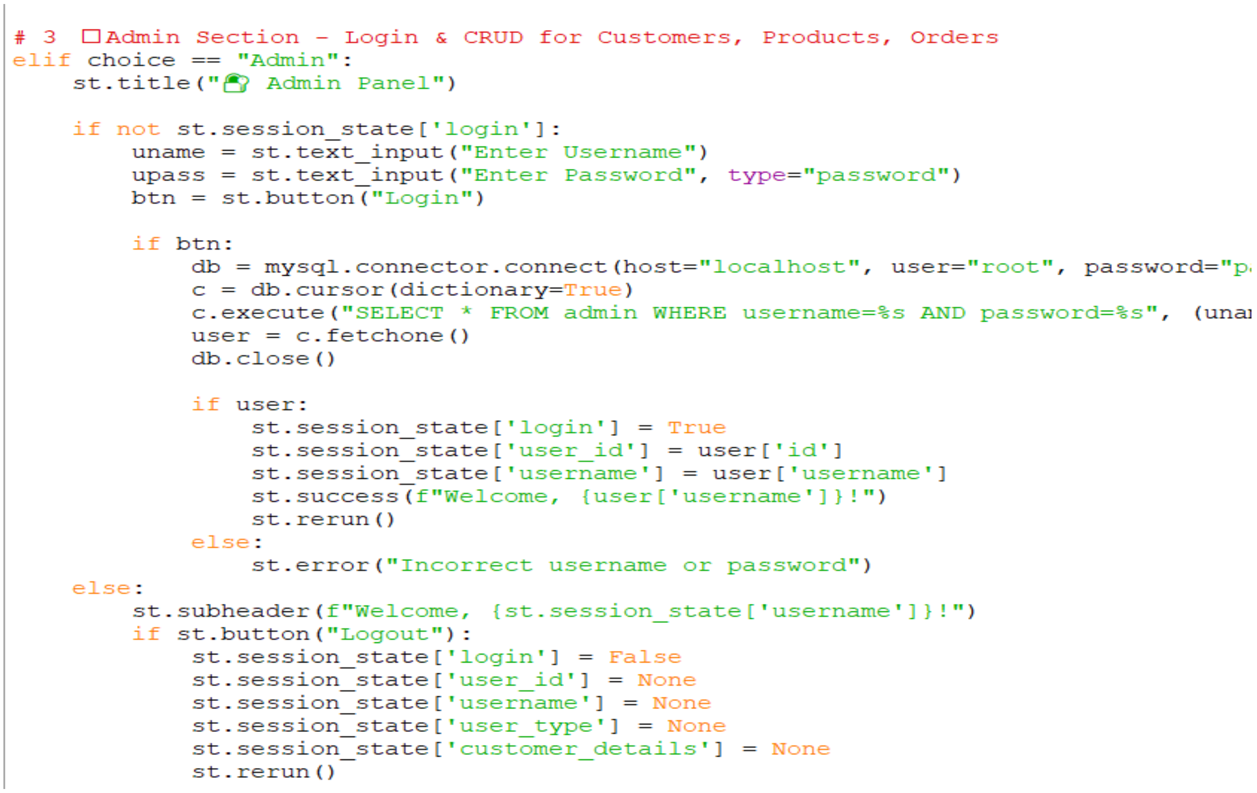


```
] To update, run: python.exe -m pip install --upgrade pip

ms) F:\finalprojects\cms\Scripts>pip install streamlit
quirement already satisfied: streamlit in f:\finalprojects\cms\lib\site-packages (1.42.2)
quirement already satisfied: altair<6,>=4.0 in f:\finalprojects\cms\lib\site-packages (from streamlit) (
quirement already satisfied: blinker<2,>=1.0.0 in f:\finalprojects\cms\lib\site-packages (from streamlit
quirement already satisfied: cachetools<6,>=4.0 in f:\finalprojects\cms\lib\site-packages (from streamli
quirement already satisfied: click<9,>=7.0 in f:\finalprojects\cms\lib\site-packages (from streamlit) (8
quirement already satisfied: numpy<3,>=1.23 in f:\finalprojects\cms\lib\site-packages (from streamlit) (
quirement already satisfied: packaging<25,>=20 in f:\finalprojects\cms\lib\site-packages (from streamlit
quirement already satisfied: pandas<3,>=1.4.0 in f:\finalprojects\cms\lib\site-packages (from streamlit)
```

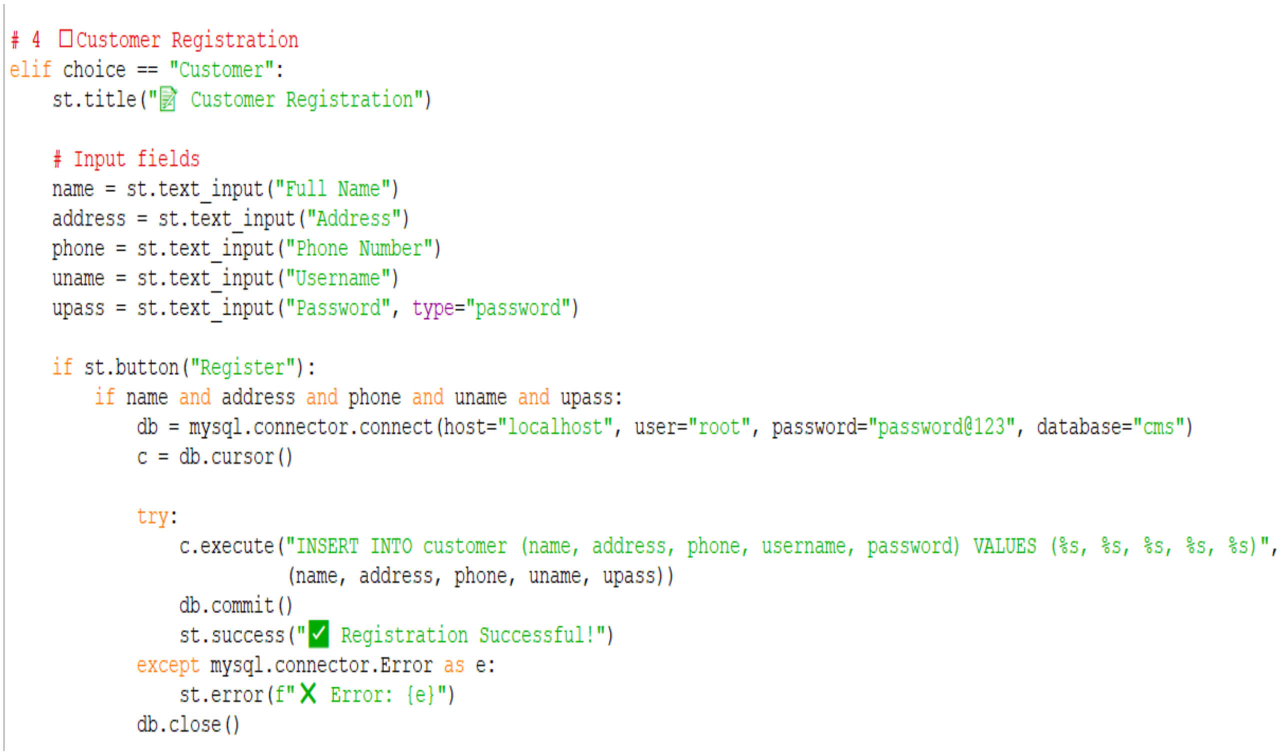
Screenshots of code



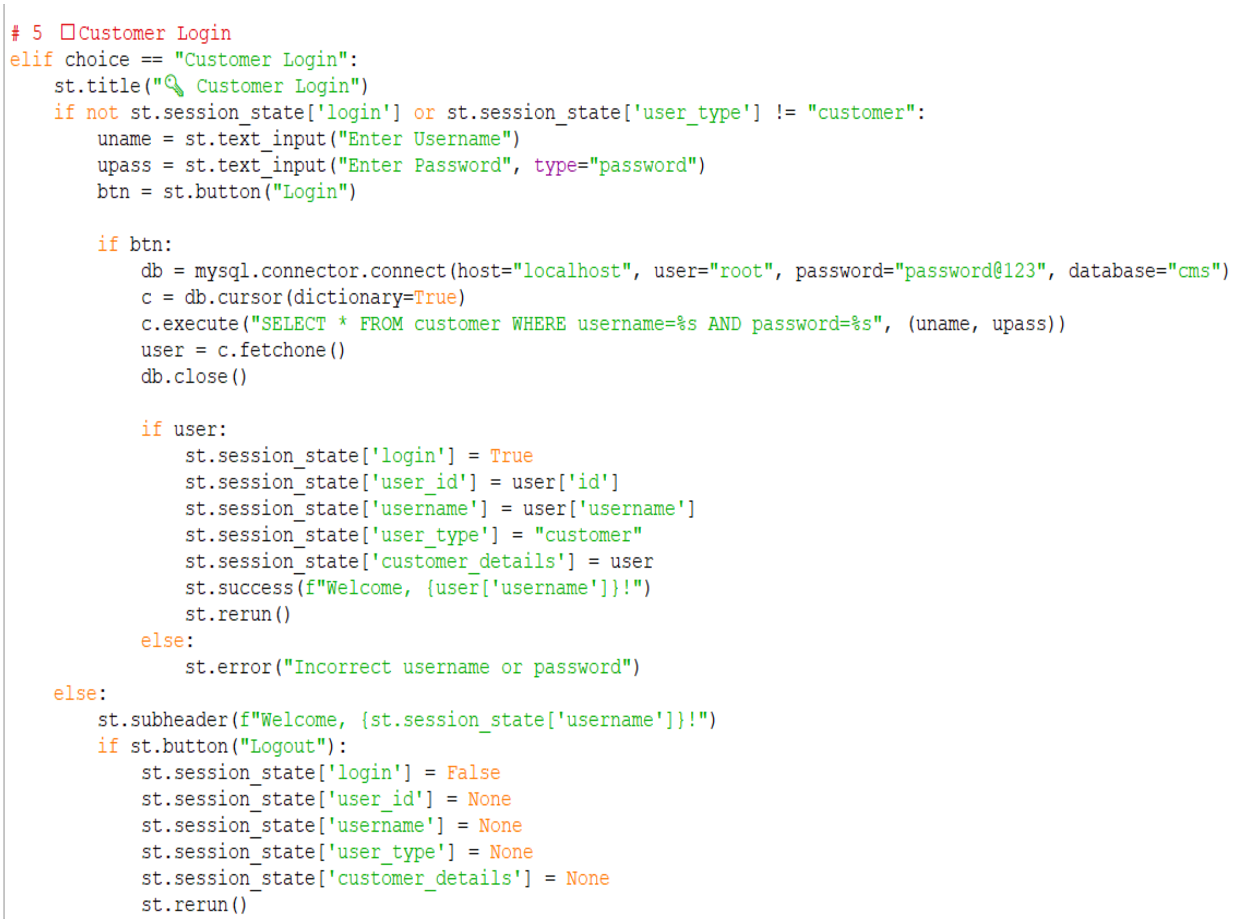
```
import streamlit as st
import mysql.connector

# Initialize Session State for Login
if 'login' not in st.session_state:
    st.session_state['login'] = False
    st.session_state['user_id'] = None
    st.session_state['username'] = None
    st.session_state['user_type'] = None
    st.session_state['customer_details'] = None

# Sidebar Menu
choice = st.sidebar.selectbox("Menu", ("Home", "Dashboard", "Admin", "Customer", "Customer Login"))

# 1 □Home Page
if choice == "Home":
    st.title("Customer Management System")
    st.image("https://www.itrobes.com/wp-content/uploads/2024/03/Customer-Management-System-Features.jpg")
    st.write("This is a web application developed by Pragyan Khaniya.")

# 2 □Dashboard - Show Total Customers, Products, Orders
elif choice == "Dashboard":
    st.title("📊 Dashboard - Overview")

    db = mysql.connector.connect(host="localhost", user="root", password="password@123", database="cms")
    c = db.cursor()

    c.execute("SELECT COUNT(*) FROM customer")
    total_customers = c.fetchone()[0]

    c.execute("SELECT COUNT(*) FROM products")
    total_products = c.fetchone()[0]

    c.execute("SELECT COUNT(*) FROM orders")
    total_orders = c.fetchone()[0]

    c.execute("SELECT COUNT(*) FROM orders WHERE order_status = 'Pending'")
    total_pending_orders = c.fetchone()[0]

    c.execute("SELECT COUNT(*) FROM orders WHERE order_status = 'Completed'")
    total_completed_orders = c.fetchone()[0]

    db.close()
```



```
# 3 □Admin Section - Login & CRUD for Customers, Products, Orders
elif choice == "Admin":
    st.title("🔐 Admin Panel")

    if not st.session_state['login']:
        uname = st.text_input("Enter Username")
        upass = st.text_input("Enter Password", type="password")
        btn = st.button("Login")

        if btn:
            db = mysql.connector.connect(host="localhost", user="root", password="p
            c = db.cursor(dictionary=True)
            c.execute("SELECT * FROM admin WHERE username=%s AND password=%s", (una
            user = c.fetchone()
            db.close()

            if user:
                st.session_state['login'] = True
                st.session_state['user_id'] = user['id']
                st.session_state['username'] = user['username']
                st.success(f"Welcome, {user['username']}!")
                st.rerun()
            else:
                st.error("Incorrect username or password")
    else:
        st.subheader(f"Welcome, {st.session_state['username']}!")
        if st.button("Logout"):
            st.session_state['login'] = False
            st.session_state['user_id'] = None
            st.session_state['username'] = None
            st.session_state['user_type'] = None
            st.session_state['customer_details'] = None
            st.rerun()
```

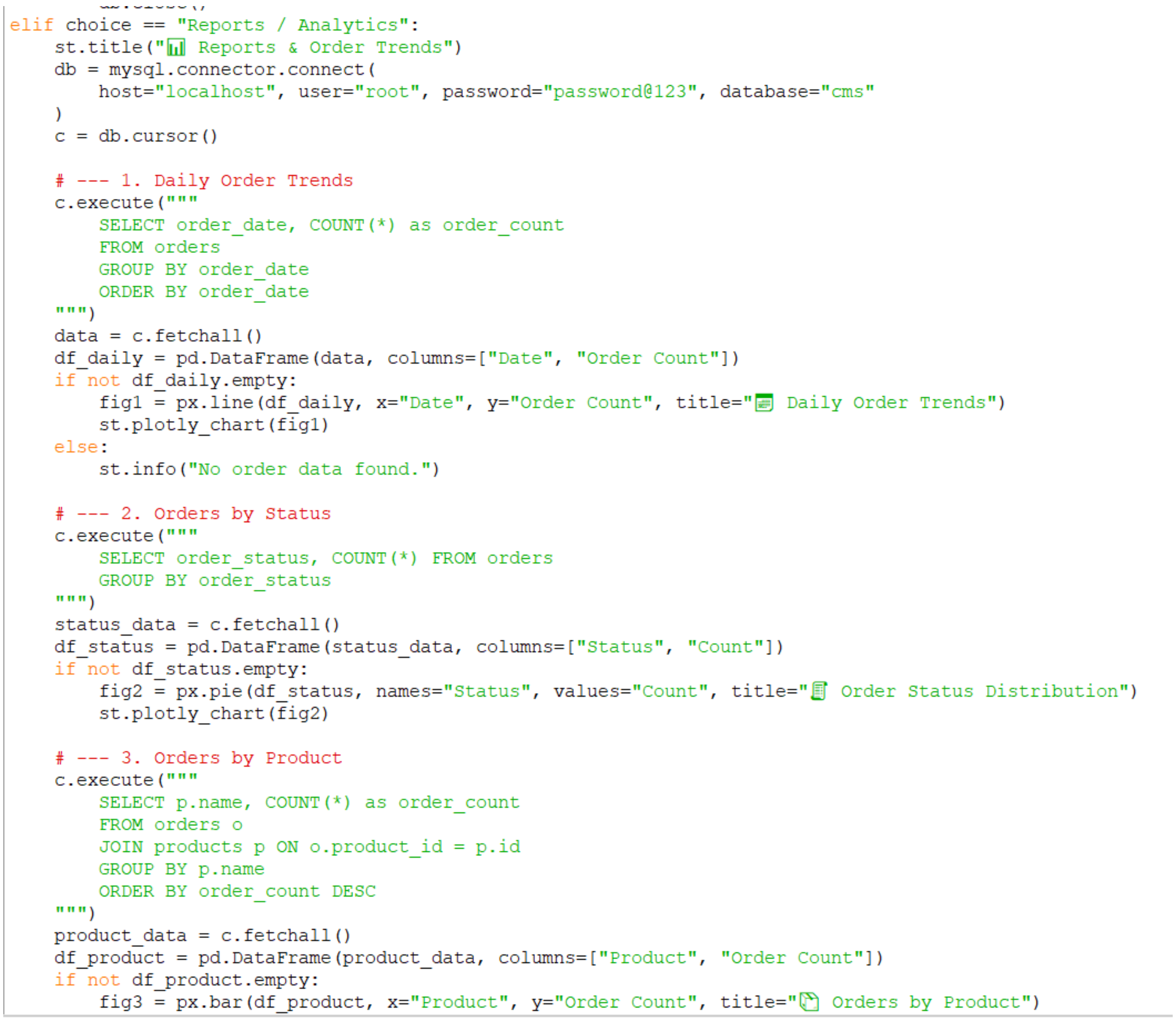


```
# 4  □Customer Registration
elif choice == "Customer":
    st.title("📝 Customer Registration")

    # Input fields
    name = st.text_input("Full Name")
    address = st.text_input("Address")
    phone = st.text_input("Phone Number")
    uname = st.text_input("Username")
    upass = st.text_input("Password", type="password")

    if st.button("Register"):
        if name and address and phone and uname and upass:
            db = mysql.connector.connect(host="localhost", user="root", password="password@123", database="cms")
            c = db.cursor()

            try:
                c.execute("INSERT INTO customer (name, address, phone, username, password) VALUES (%s, %s, %s, %s, %s)",
                          (name, address, phone, uname, upass))
                db.commit()
                st.success("✅ Registration Successful!")
            except mysql.connector.Error as e:
                st.error(f"❌ Error: {e}")
            db.close()
```

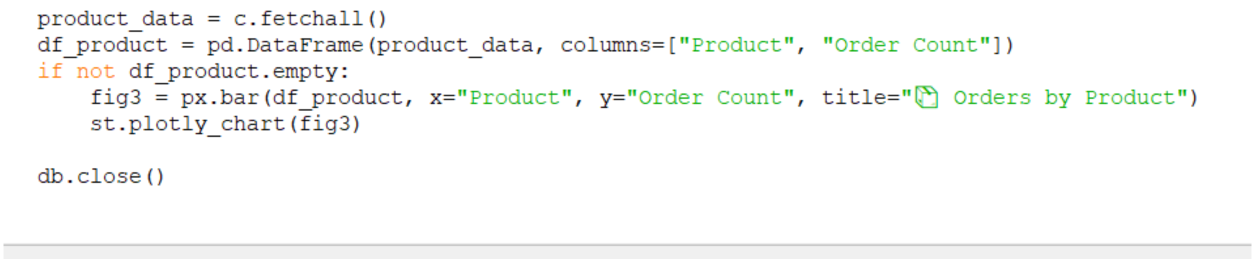


```
# 5  □Customer Login
elif choice == "Customer Login":
    st.title("🔑 Customer Login")
    if not st.session_state['login'] or st.session_state['user_type'] != "customer":
        uname = st.text_input("Enter Username")
        upass = st.text_input("Enter Password", type="password")
        btn = st.button("Login")

        if btn:
            db = mysql.connector.connect(host="localhost", user="root", password="password@123", database="cms")
            c = db.cursor(dictionary=True)
            c.execute("SELECT * FROM customer WHERE username=%s AND password=%s", (uname, upass))
            user = c.fetchone()
            db.close()

            if user:
                st.session_state['login'] = True
                st.session_state['user_id'] = user['id']
                st.session_state['username'] = user['username']
                st.session_state['user_type'] = "customer"
                st.session_state['customer_details'] = user
                st.success(f"Welcome, {user['username']}!")
                st.rerun()
            else:
                st.error("Incorrect username or password")
    else:
        st.subheader(f"Welcome, {st.session_state['username']}!")
        if st.button("Logout"):
            st.session_state['login'] = False
            st.session_state['user_id'] = None
            st.session_state['username'] = None
            st.session_state['user_type'] = None
            st.session_state['customer_details'] = None
            st.rerun()
```

```
# 6. Customer Dashboard
elif choice == "Customer Dashboard":
    if not st.session_state['login'] or st.session_state['user_type'] != "customer":
        st.error("You need to login first!")
    else:
        st.title("\U0001F4CB Customer Dashboard")
        st.subheader("Your Details")
        customer_details = st.session_state.get('customer_details', {})
        st.write(f"**Name:** {customer_details.get('name', 'N/A')}")
        st.write(f"**Address:** {customer_details.get('address', 'N/A')}")
        st.write(f"**Phone:** {customer_details.get('phone', 'N/A')}")

        db = mysql.connector.connect(host="localhost", user="root", password="password@123", database="cms")
        c = db.cursor(dictionary=True)

        st.subheader("Your Orders")
        c.execute("SELECT o.id, o.order_date, o.order_status, p.name AS product_name FROM orders o JOIN products p ON o.product_id = p.id WHERE o.custome
        orders = c.fetchall()
        st.table(orders)

        # Order count
        c.execute("SELECT COUNT(*) FROM orders WHERE customer_id = %s", (st.session_state['user_id'],))
        order_count = c.fetchone()['COUNT(*)']
        st.metric("\U0001F4E6 Total Orders", order_count)

        # Download CSV
        if orders:
            df_orders = pd.DataFrame(orders)
            csv = df_orders.to_csv(index=False).encode('utf-8')
            st.download_button("\U0001F4E5 Download Order History", data=csv, file_name="order_history.csv", mime="text/csv")
```

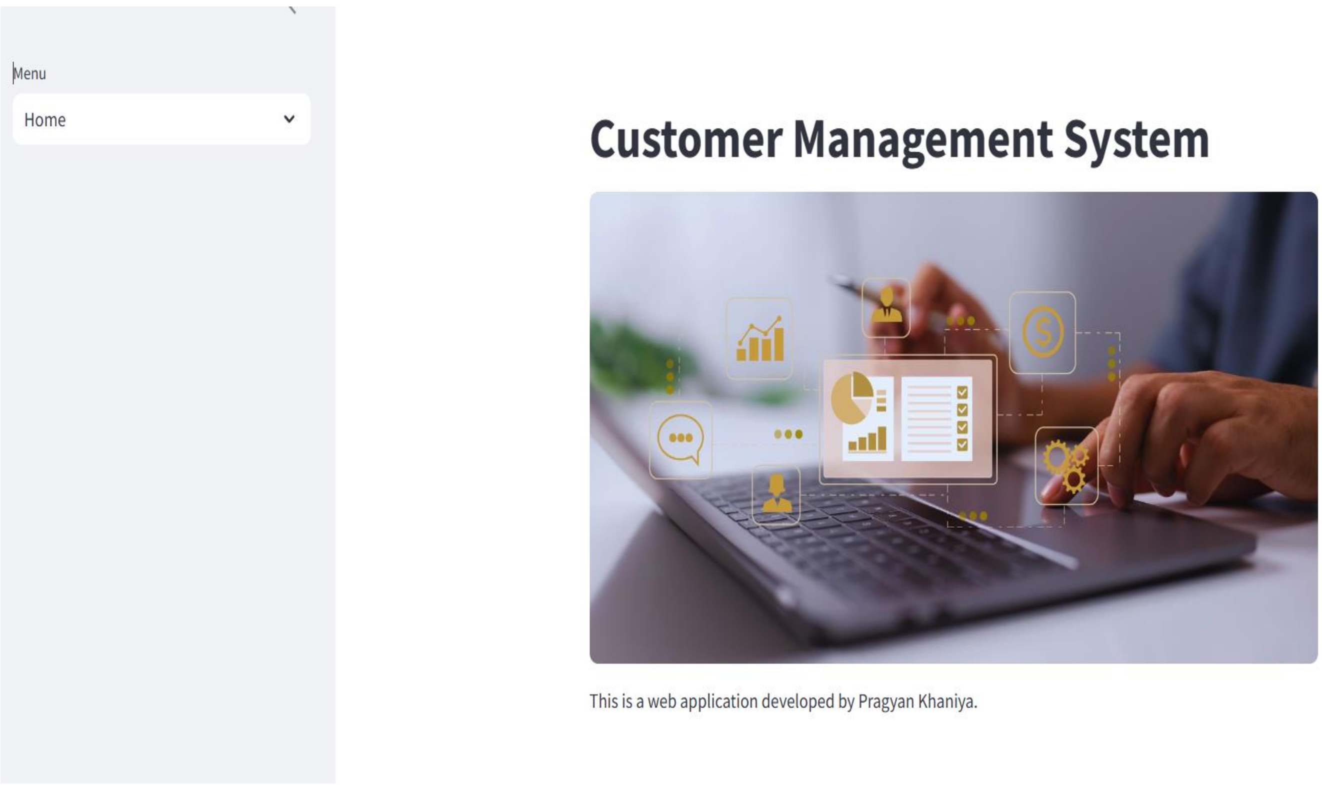


```
        db.close()
elif choice == "Reports / Analytics":
    st.title("📊 Reports & Order Trends")
    db = mysql.connector.connect(
        host="localhost", user="root", password="password@123", database="cms"
    )
    c = db.cursor()

    # --- 1. Daily Order Trends
    c.execute("""
        SELECT order_date, COUNT(*) as order_count
        FROM orders
        GROUP BY order_date
        ORDER BY order_date
    """)
    data = c.fetchall()
    df_daily = pd.DataFrame(data, columns=["Date", "Order Count"])
    if not df_daily.empty:
        fig1 = px.line(df_daily, x="Date", y="Order Count", title="📅 Daily Order Trends")
        st.plotly_chart(fig1)
    else:
        st.info("No order data found.")

    # --- 2. Orders by Status
    c.execute("""
        SELECT order_status, COUNT(*) FROM orders
        GROUP BY order_status
    """)
    status_data = c.fetchall()
    df_status = pd.DataFrame(status_data, columns=["Status", "Count"])
    if not df_status.empty:
        fig2 = px.pie(df_status, names="Status", values="Count", title="🧾 Order Status Distribution")
        st.plotly_chart(fig2)

    # --- 3. Orders by Product
    c.execute("""
        SELECT p.name, COUNT(*) as order_count
        FROM orders o
        JOIN products p ON o.product_id = p.id
        GROUP BY p.name
        ORDER BY order_count DESC
    """)
    product_data = c.fetchall()
    df_product = pd.DataFrame(product_data, columns=["Product", "Order Count"])
    if not df_product.empty:
        fig3 = px.bar(df_product, x="Product", y="Order Count", title="📦 Orders by Product")
```



```
    product_data = c.fetchall()
    df_product = pd.DataFrame(product_data, columns=["Product", "Order Count"])
    if not df_product.empty:
        fig3 = px.bar(df_product, x="Product", y="Order Count", title="📦 Orders by Product")
        st.plotly_chart(fig3)

    db.close()
```

Screenshot app

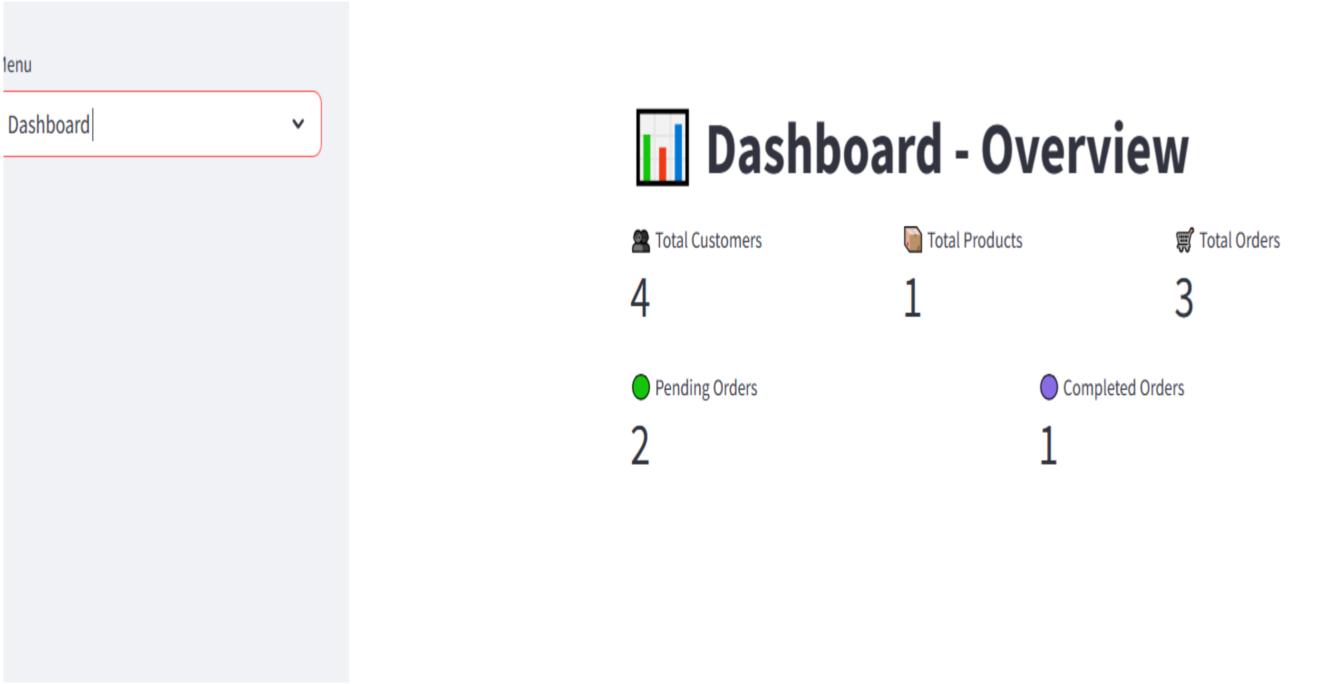


Menu

Home

Customer Management System

This is a web application developed by Pragyan Khaniya.



lenu

Dashboard

📊 Dashboard - Overview

👥 Total Customers

4

📦 Total Products

1

🛒 Total Orders

3

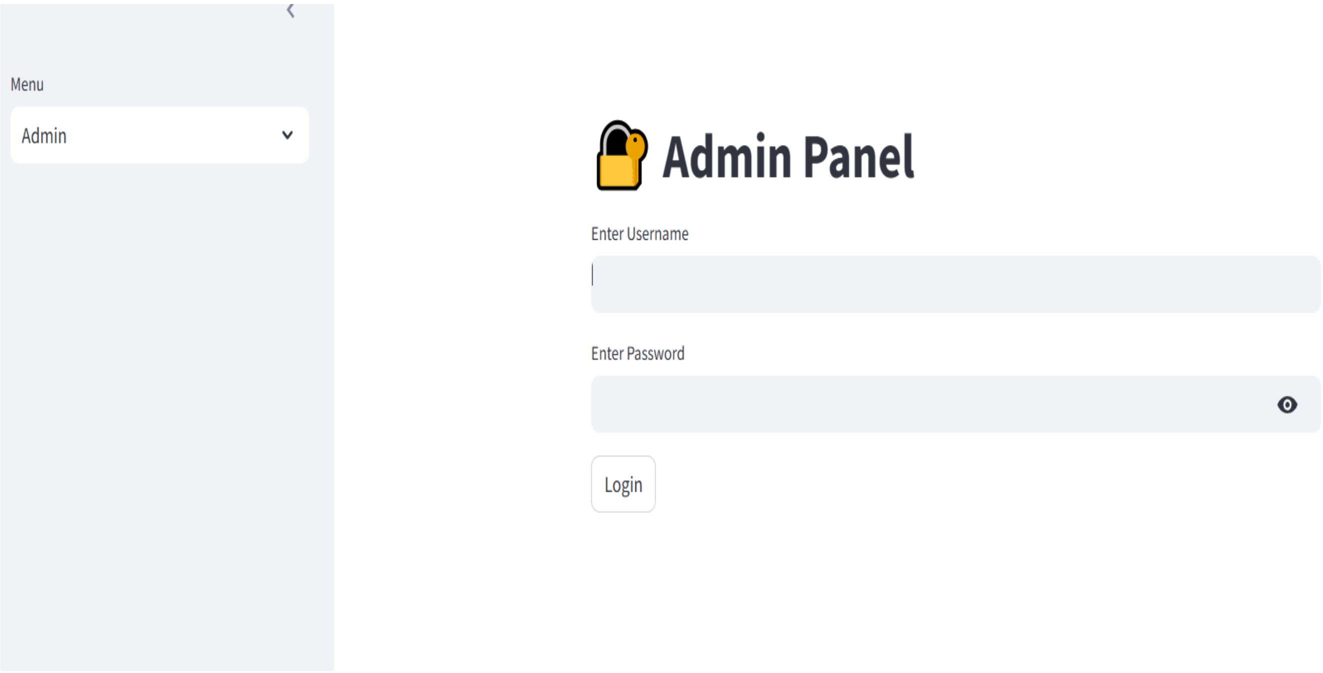
🟢 Pending Orders

2

🟣 Completed Orders

1

Admin login



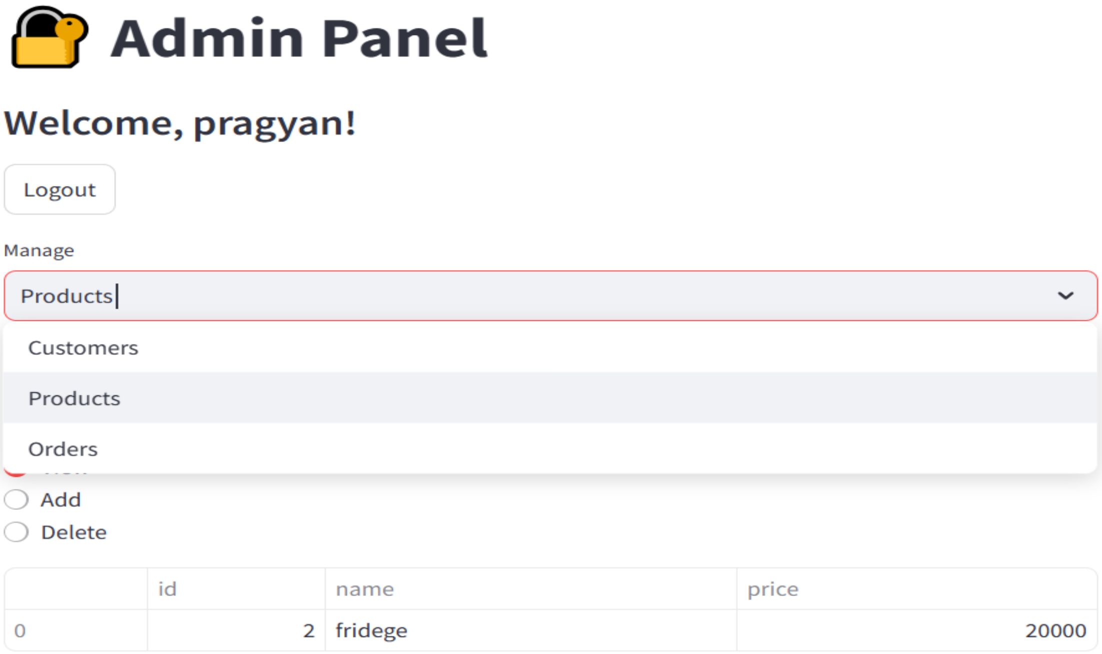
Menu: Admin

Admin Panel

Enter Username

Enter Password

Admin can manage products,customers,orders



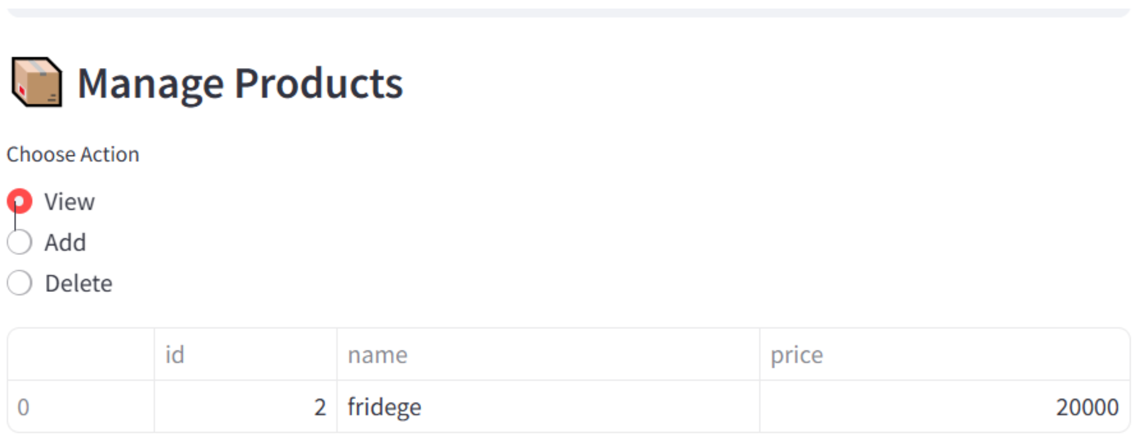
Admin Panel

Welcome, pragyan!

Manage: Products

	id	name	price
0	2	fridege	20000

Admin can perform crud action



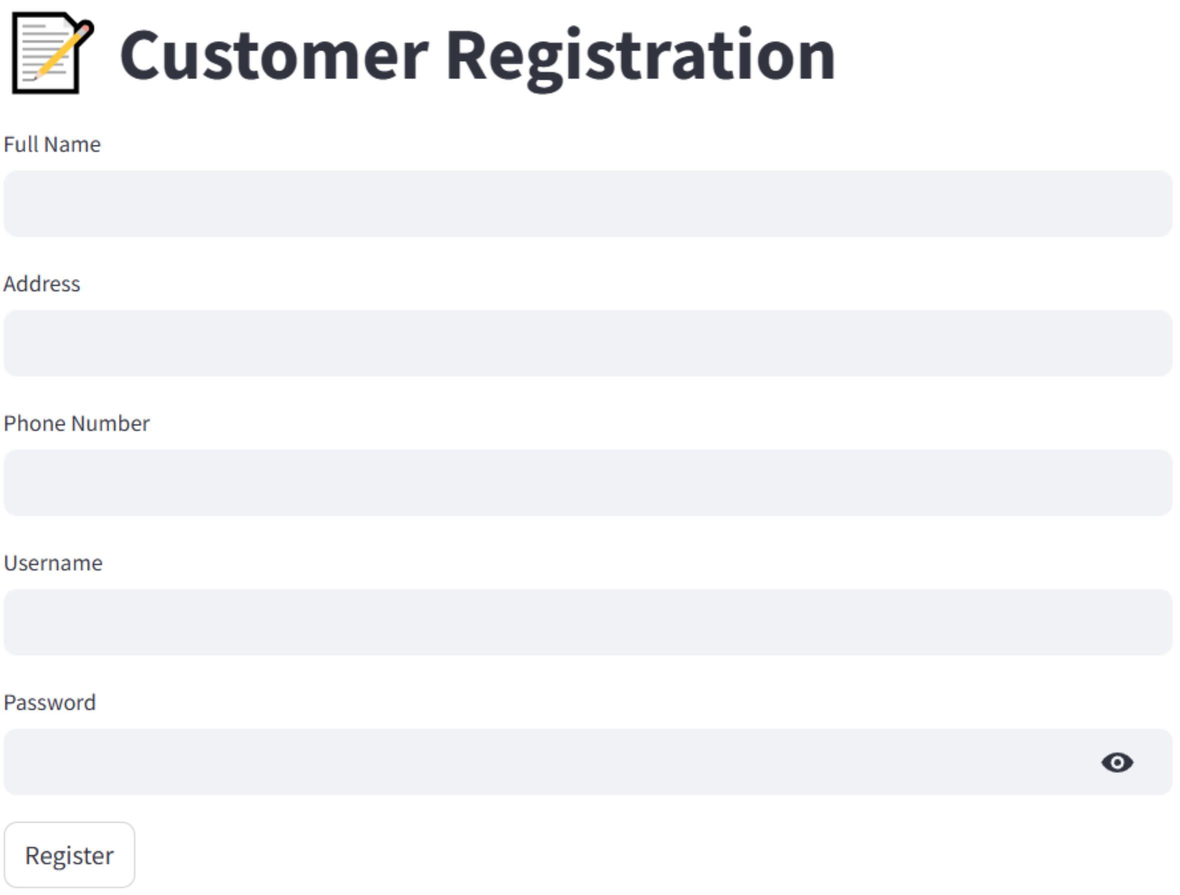
📦 Manage Products

Choose Action

● View
○ Add
○ Delete

	id	name	price
0	2	fridege	20000

Registration form for customer



📝 Customer Registration

Full Name

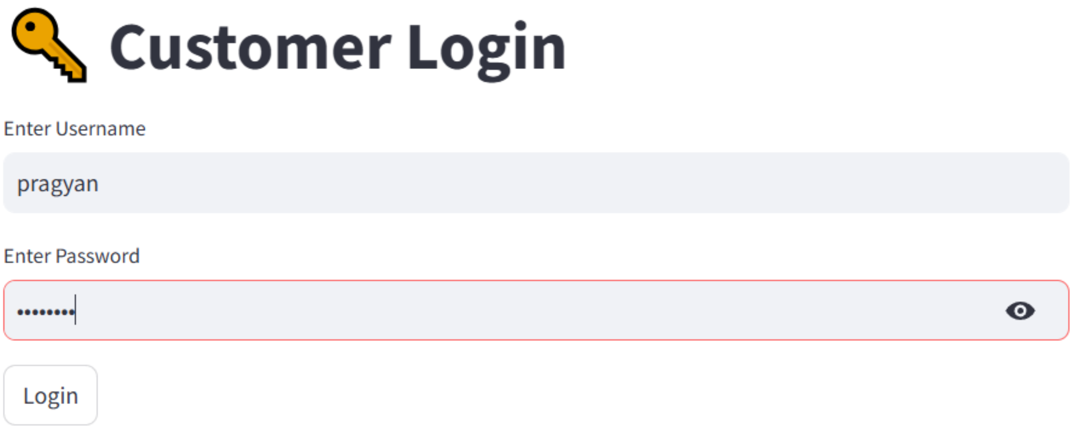
Address

Phone Number

Username

Password

Customer login page



🔑 Customer Login

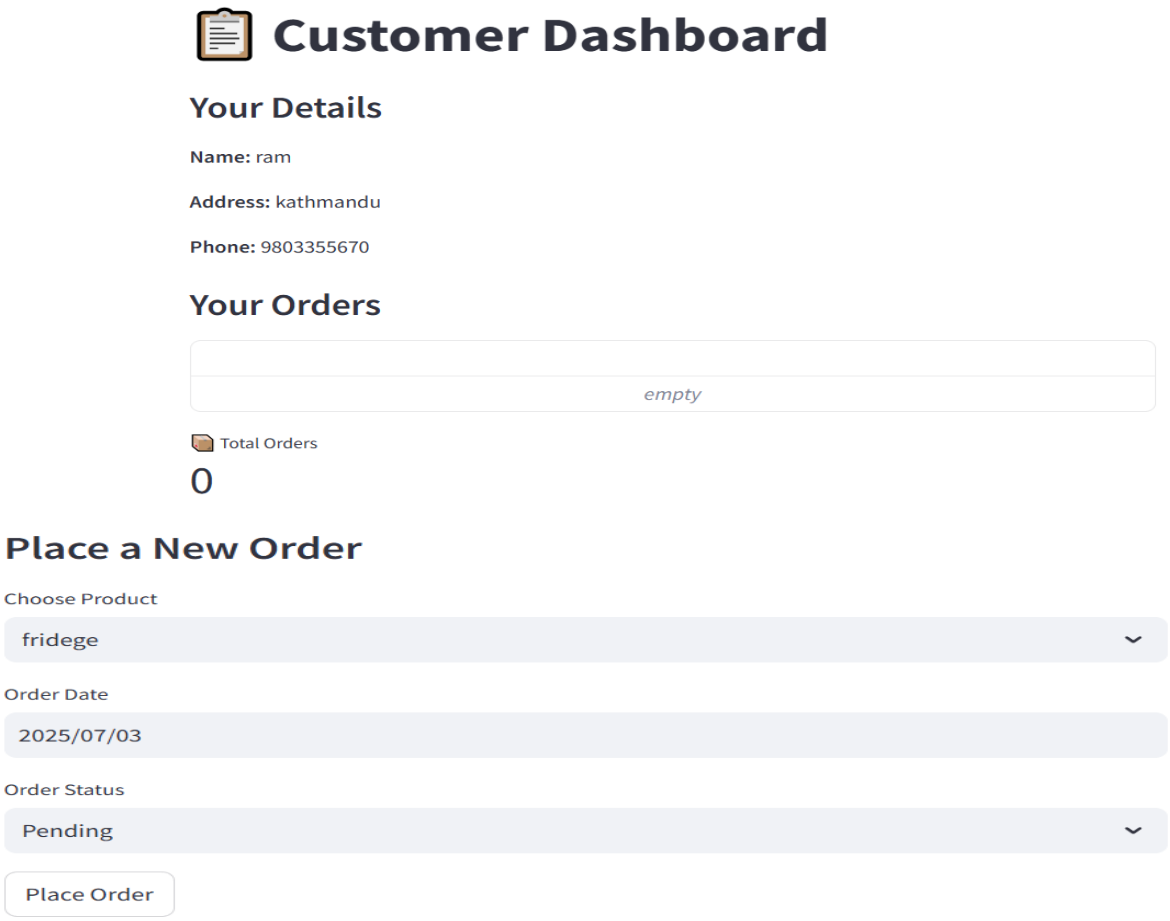
Enter Username

pragyan

Enter Password

••••••••

Customer dashboard



📋 Customer Dashboard

Your Details

Name: ram

Address: kathmandu

Phone: 9803355670

Your Orders

empty

📦 Total Orders

0

Place a New Order

Choose Product

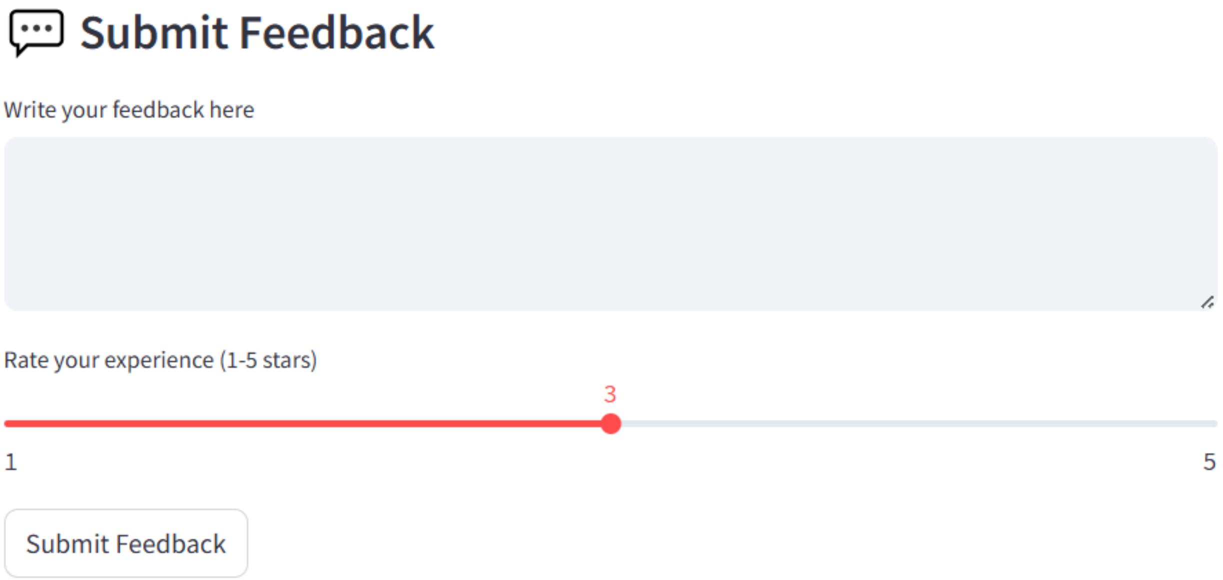
fridege

Order Date

2025/07/03

Order Status

Pending

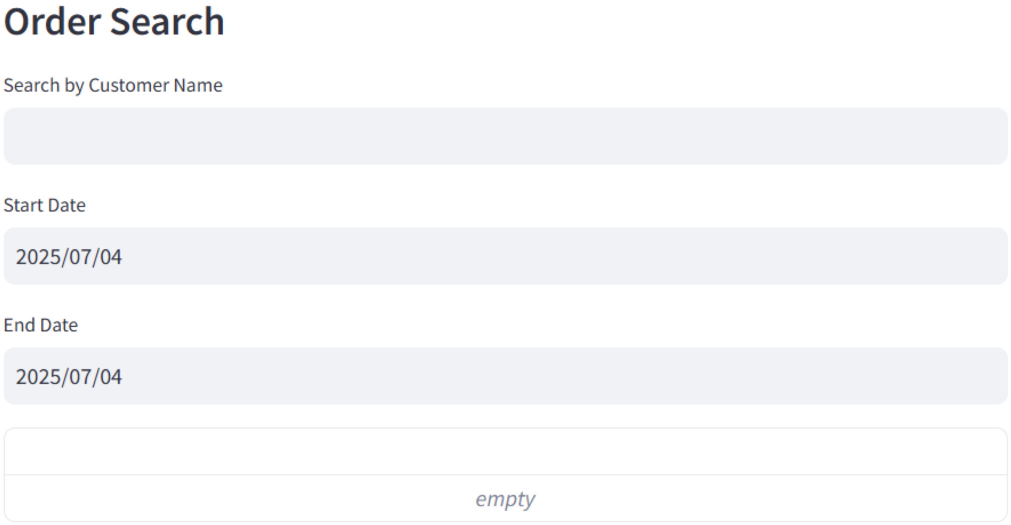


💬 Submit Feedback

Write your feedback here

Rate your experience (1-5 stars): 3

Searching orders



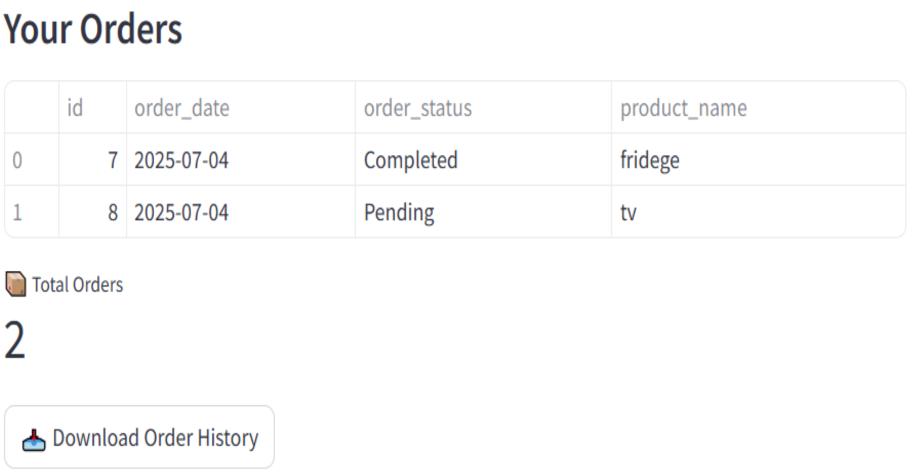
Order Search

Search by Customer Name

Start Date: 2025/07/04

End Date: 2025/07/04

Downloading order history

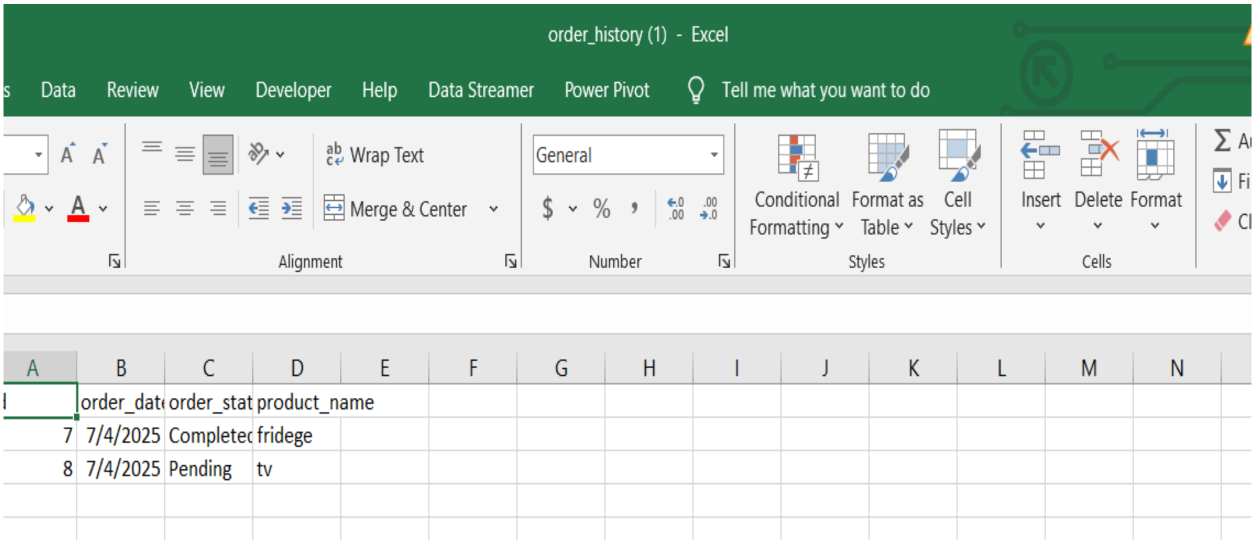


Your Orders

	id	order_date	order_status	product_name
0	7	2025-07-04	Completed	fridege
1	8	2025-07-04	Pending	tv

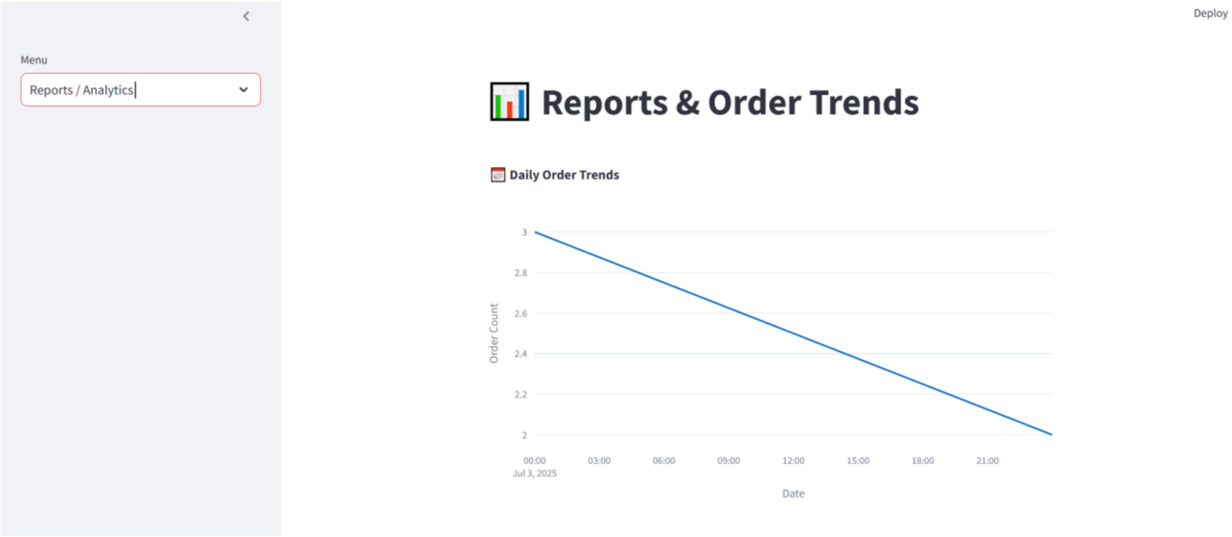
📦 Total Orders

2



A	B	C	D	E
i	order_dat	order_stat	product_name	
7	7/4/2025	Completec	fridege	
8	7/4/2025	Pending	tv	

Report and analytics



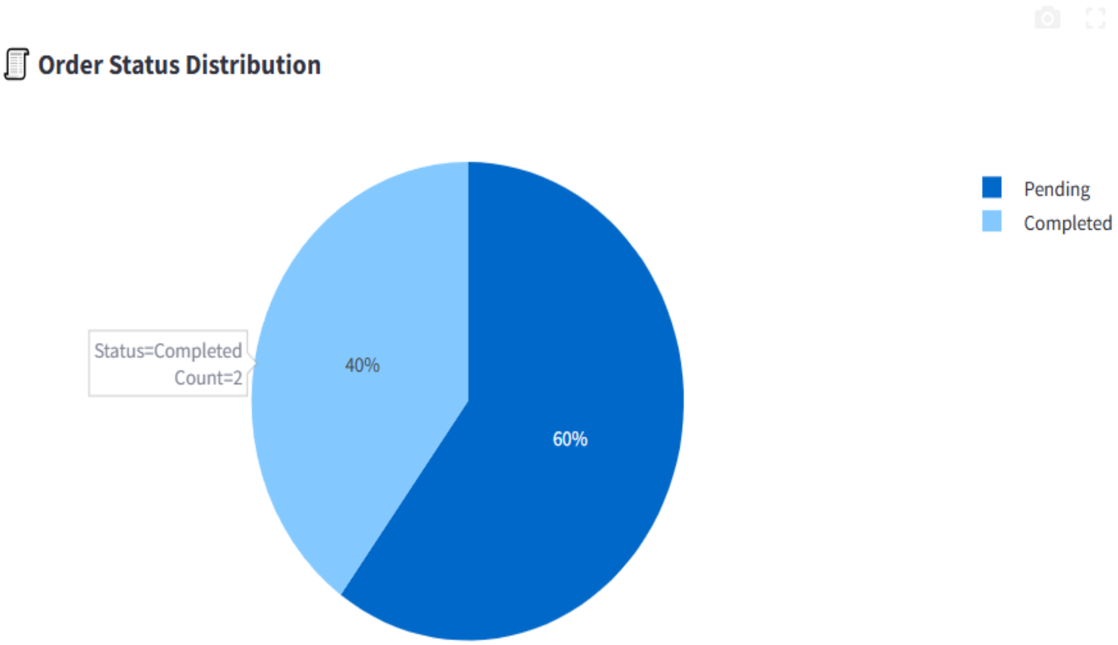
Deploy

Menu

Reports / Analytics

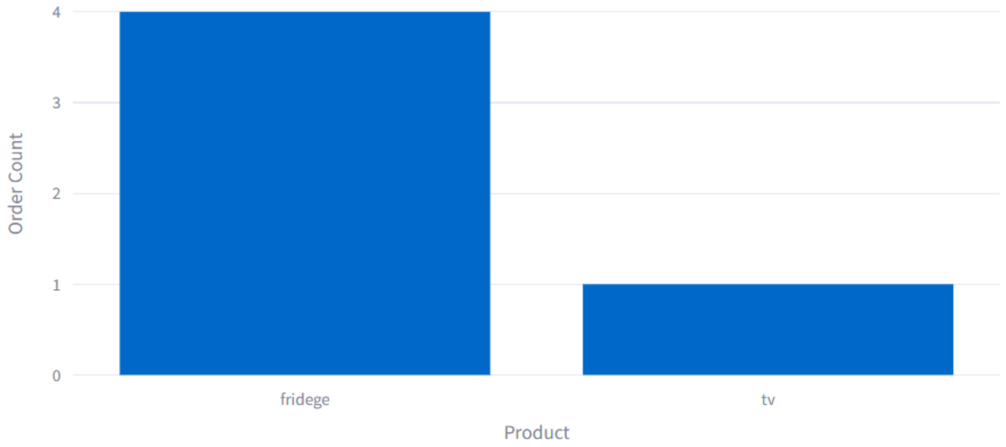
📊 Reports & Order Trends

📅 **Daily Order Trends**



📜 Order Status Distribution

📦 Orders by Product


Order Count
fridege
tv
Product