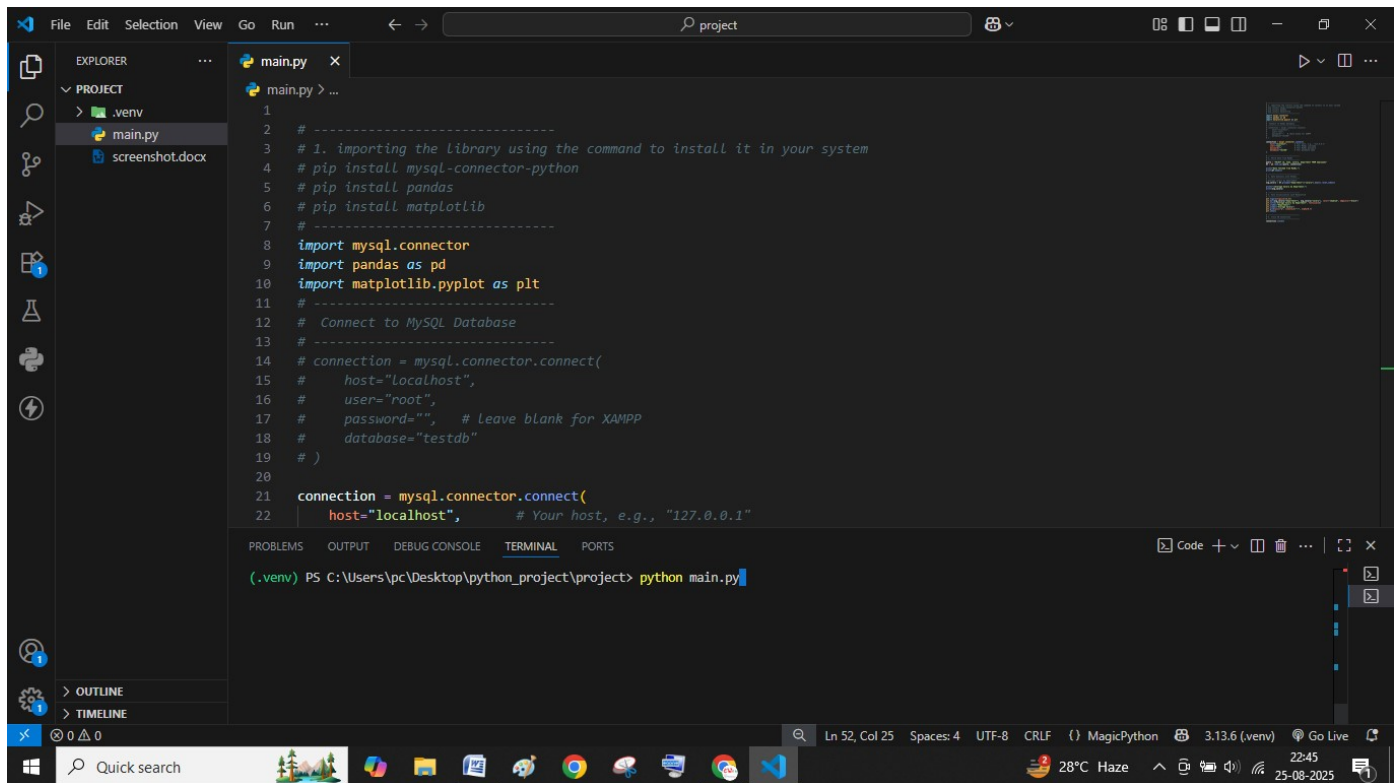


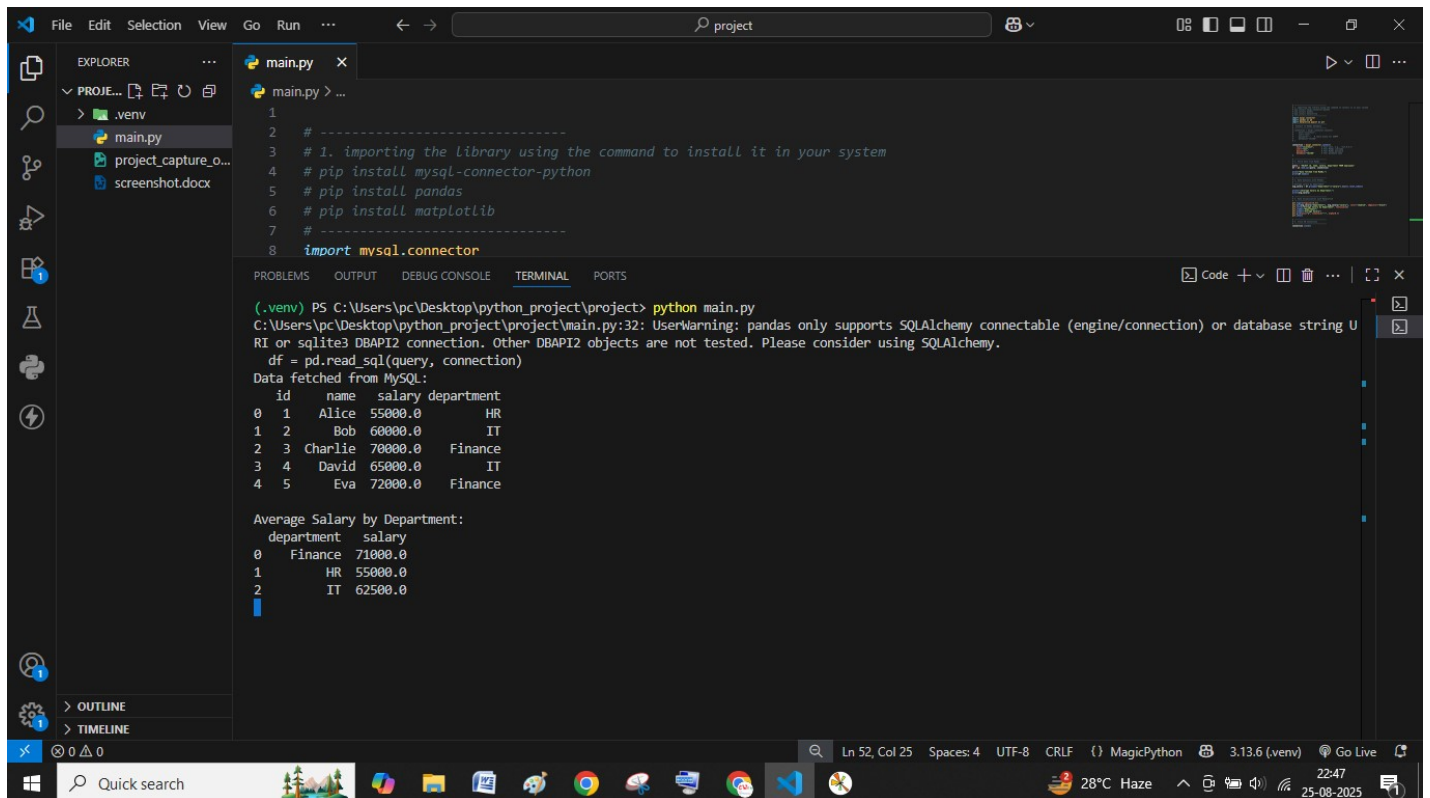
Screen shot of installing dependencies at first install XAMPP server and start it then dump the sql file into your db



```
1 # -----
2 # 1. importing the library using the command to install it in your system
3 # pip install mysql-connector-python
4 # pip install pandas
5 # pip install matplotlib
6 # -----
7
8 import mysql.connector
9 import pandas as pd
10 import matplotlib.pyplot as plt
11 # -----
12 # Connect to MySQL Database
13 # -----
14 # connection = mysql.connector.connect(
15 #     host="localhost",
16 #     user="root",
17 #     password="", # Leave blank for XAMPP
18 #     database="testdb"
19 # )
20
21 connection = mysql.connector.connect(
22     host="localhost", # Your host, e.g., "127.0.0.1"
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

(.venv) PS C:\Users\pc\Desktop\python\_project\project> python main.py



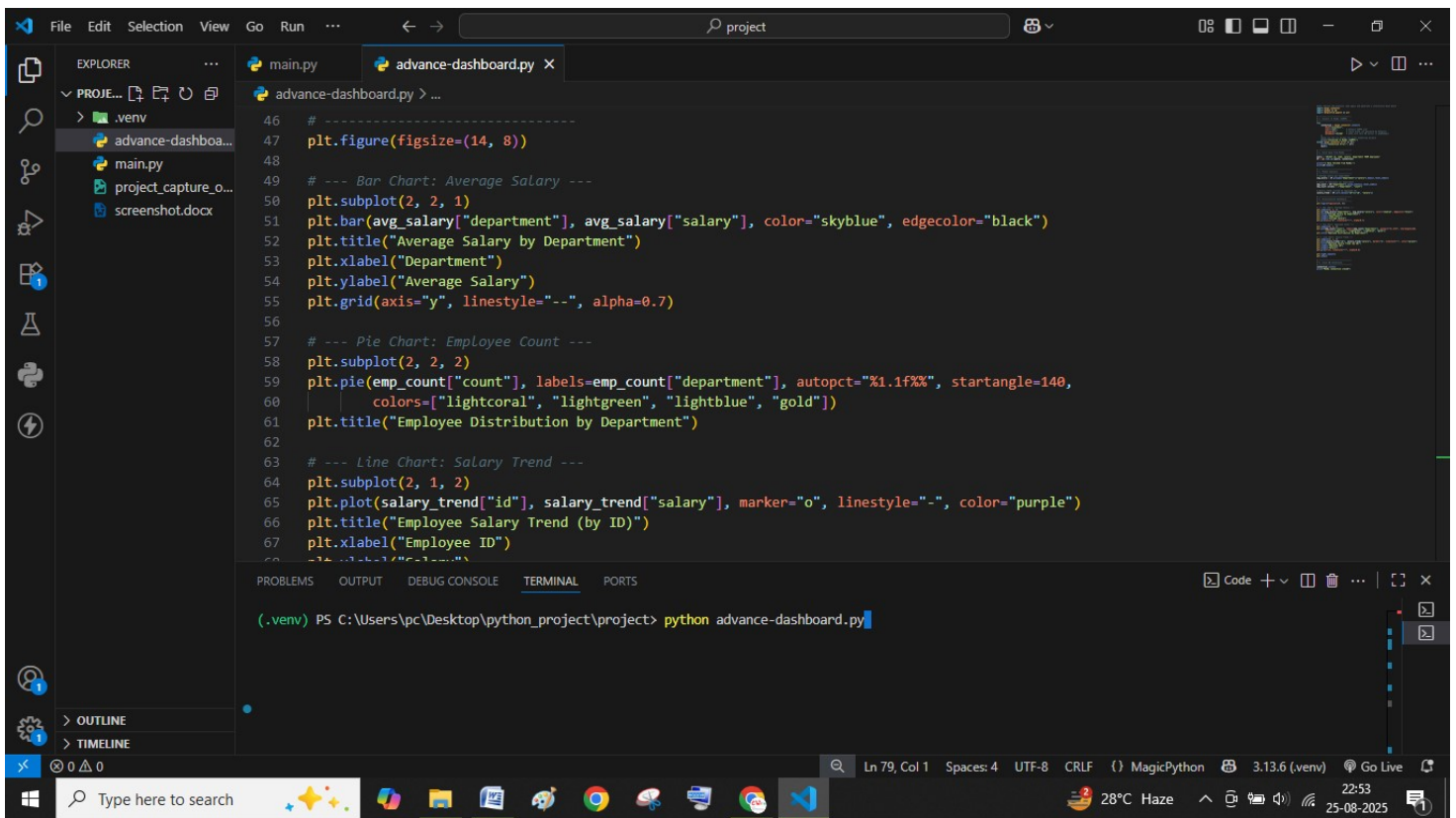
```
(.venv) PS C:\Users\pc\Desktop\python_project\project> python main.py
C:\Users\pc\Desktop\python_project\project\main.py:32: UserWarning: pandas only supports SQLAlchemy connectable (engine/connection) or database string URI or sqlite3 DBAPI2 connection. Other DBAPI2 objects are not tested. Please consider using SQLAlchemy.
  df = pd.read_sql(query, connection)
Data fetched from MySQL:
  id  name  salary department
0   1  Alice  55000.0        HR
1   2   Bob  60000.0         IT
2   3 Charlie  70000.0  Finance
3   4  David  65000.0         IT
4   5   Eva  72000.0  Finance

Average Salary by Department:
  department  salary
0  Finance    71000.0
1        HR    55000.0
2         IT    62500.0
```

Execute the program with this code

Make it advance based project as a day day 2 purpose make it industry use

Output

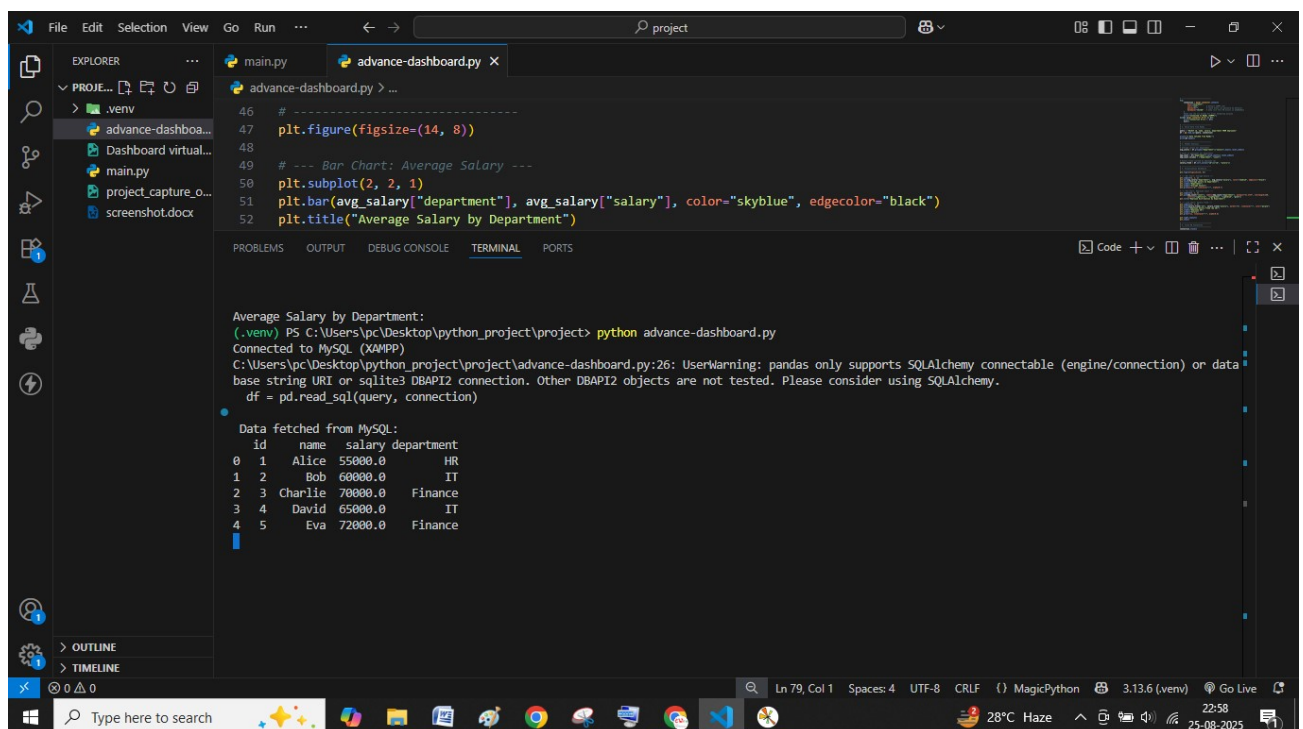


#day 1 code Beginning-project.py file name

```

# -----
# 1. importing the library using the command to install it in your system

```



```

# pip install mysql-connector-python
# pip install pandas
# pip install matplotlib
# -----
import mysql.connector

```

```

import pandas as pd
import matplotlib.pyplot as plt
# -----
# Connect to MySQL Database
# -----
# connection = mysql.connector.connect(
#     host="localhost",
#     user="root",
#     password="", # Leave blank for XAMPP
#     database="testdb"
# )

connection = mysql.connector.connect(
    host="localhost", # Your host, e.g., "127.0.0.1"
    user="root",      # Your MySQL username
    password="",      # Your MySQL password
    database="testdb" # Your database name
)

# -----
# 2. Fetch Data from MySQL
# -----
query = "SELECT id, name, salary, department FROM employees"
df = pd.read_sql(query, connection)

print("Data fetched from MySQL:")
print(df.head())

# -----
# 3. Data Analysis with Pandas
# -----
# Average salary by department
avg_salary = df.groupby("department")["salary"].mean().reset_index()

print("\nAverage Salary by Department:")
print(avg_salary)

# -----
# 4. Data Visualization with Matplotlib
# -----
plt.figure(figsize=(8,5))
plt.bar(avg_salary["department"], avg_salary["salary"], color="skyblue",
        edgecolor="black")
plt.title("Average Salary by Department", fontsize=14)
plt.xlabel("Department")
plt.ylabel("Average Salary")
plt.grid(axis="y", linestyle="--", alpha=0.7)
plt.show()

```

```
# -----
# 5. Close DB Connection
# -----
connection.close()
```

Advance-dashboard.py

Code

```
#lets rewrite the previous code again and generate a interactive dash board
import mysql.connector
import pandas as pd
import matplotlib.pyplot as plt

# -----
# 1. Connect to MySQL (XAMPP)
# -----
try:
    connection = mysql.connector.connect(
        host="localhost",
        user="root",          # default XAMPP user
        password="",          # leave blank (no password by default)
        database="testdb"    # make sure this DB exists in phpMyAdmin
    )
    #make use the try except for error handling purpose
    print("Connected to MySQL (XAMPP)")
except mysql.connector.Error as err:
    print("Connection Error:", err)
    exit()

# -----
# 2. Fetch Data from MySQL
# -----
query = "SELECT id, name, salary, department FROM employees"
df = pd.read_sql(query, connection)

print("\n Data fetched from MySQL:")
print(df.head())

# -----
# 3. Pandas Analysis
# -----
# Average salary per department
avg_salary = df.groupby("department")["salary"].mean().reset_index()

# Count of employees per department
emp_count = df["department"].value_counts().reset_index()
emp_count.columns = ["department", "count"]
```



```

# Salary trend (sorted by employee id)
salary_trend = df.sort_values("id")[["id", "salary"]]

# -----
# 4. Visualization Dashboard
# -----
plt.figure(figsize=(14, 8))

# --- Bar Chart: Average Salary ---
plt.subplot(2, 2, 1)
plt.bar(avg_salary["department"], avg_salary["salary"], color="skyblue",
edgecolor="black")
plt.title("Average Salary by Department")
plt.xlabel("Department")
plt.ylabel("Average Salary")
plt.grid(axis="y", linestyle="--", alpha=0.7)

# --- Pie Chart: Employee Count ---
plt.subplot(2, 2, 2)
plt.pie(emp_count["count"], labels=emp_count["department"], autopct="%1.1f%%",
startangle=140,
        colors=["lightcoral", "lightgreen", "lightblue", "gold"])
plt.title("Employee Distribution by Department")

# --- Line Chart: Salary Trend ---
plt.subplot(2, 1, 2)
plt.plot(salary_trend["id"], salary_trend["salary"], marker="o", linestyle="-",
        color="purple")
plt.title("Employee Salary Trend (by ID)")
plt.xlabel("Employee ID")
plt.ylabel("Salary")
plt.grid(True, linestyle="--", alpha=0.6)

plt.tight_layout()
plt.show()

# -----
# 5. Close DB Connection
# -----
connection.close()
print("MySQL connection closed")

```

Thank you