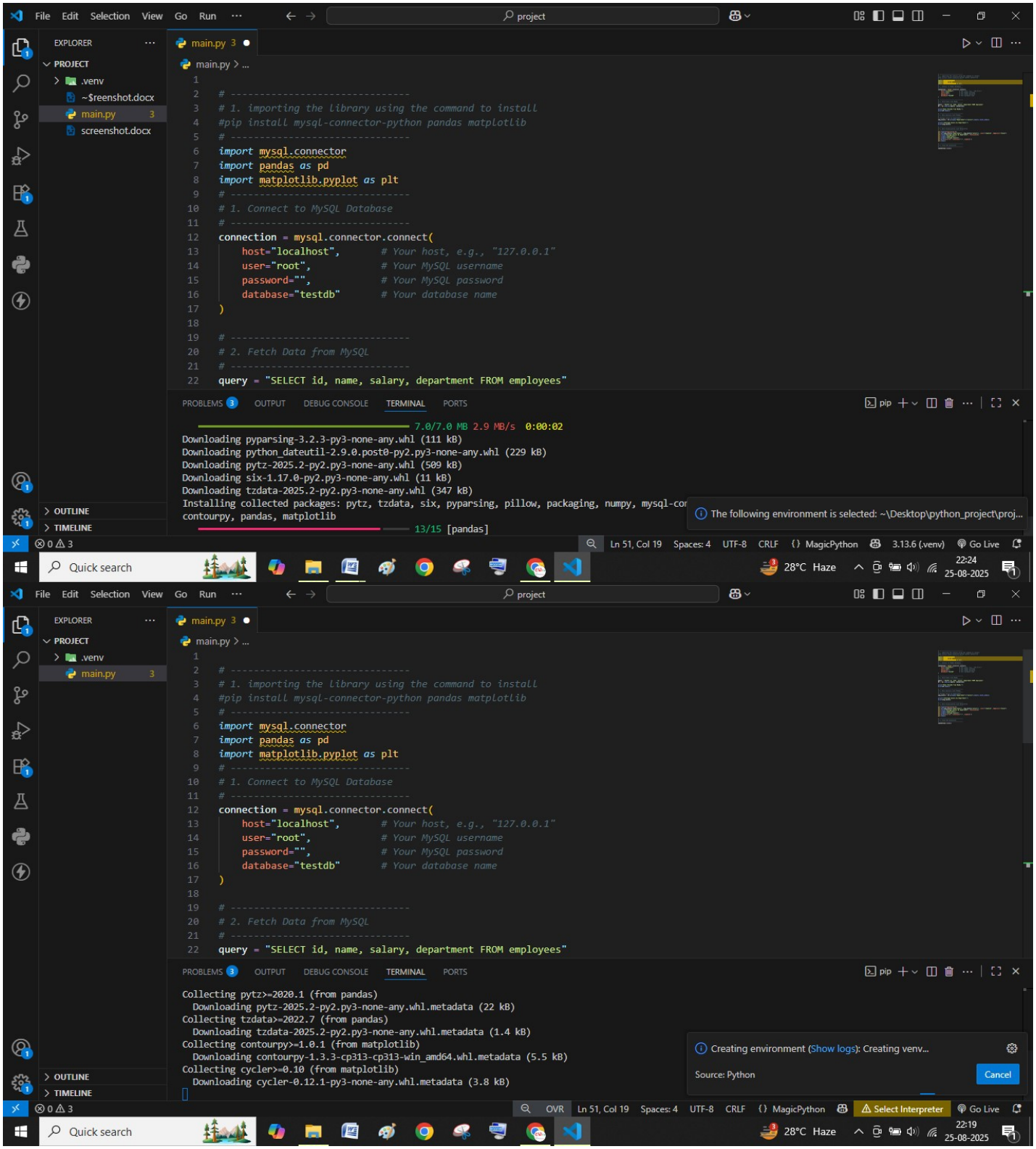
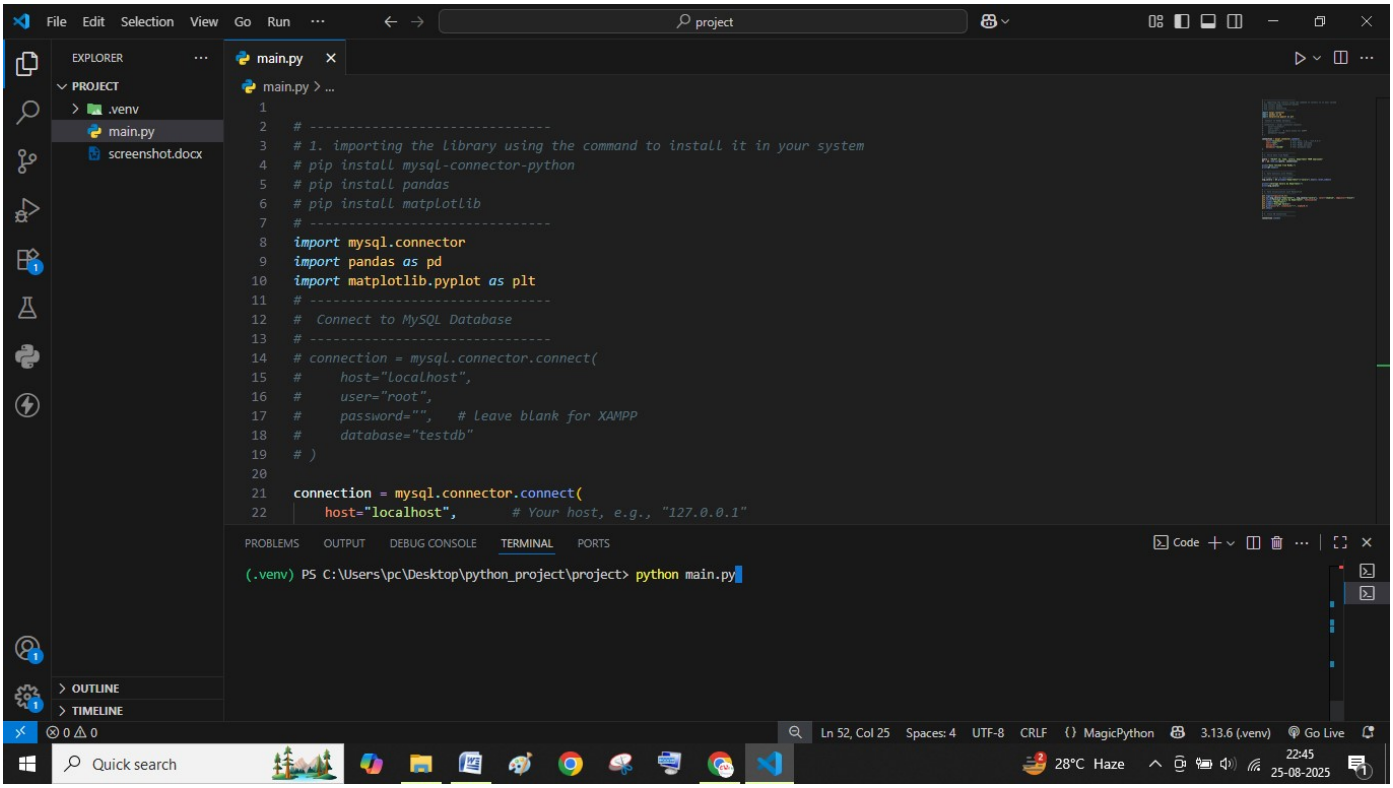
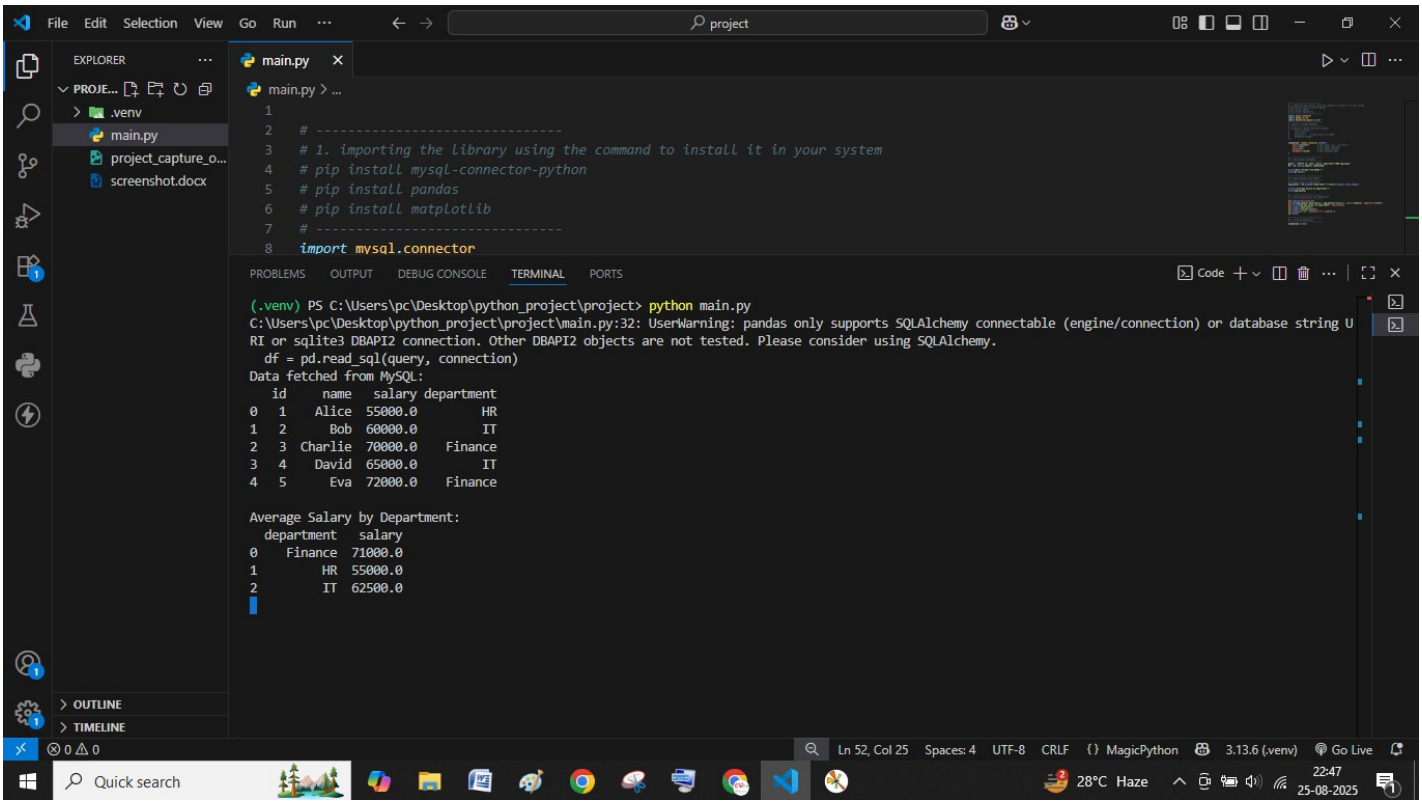


Screen shot of installing dependencies at first install XAMPP server and start it then dump the sql file into your db

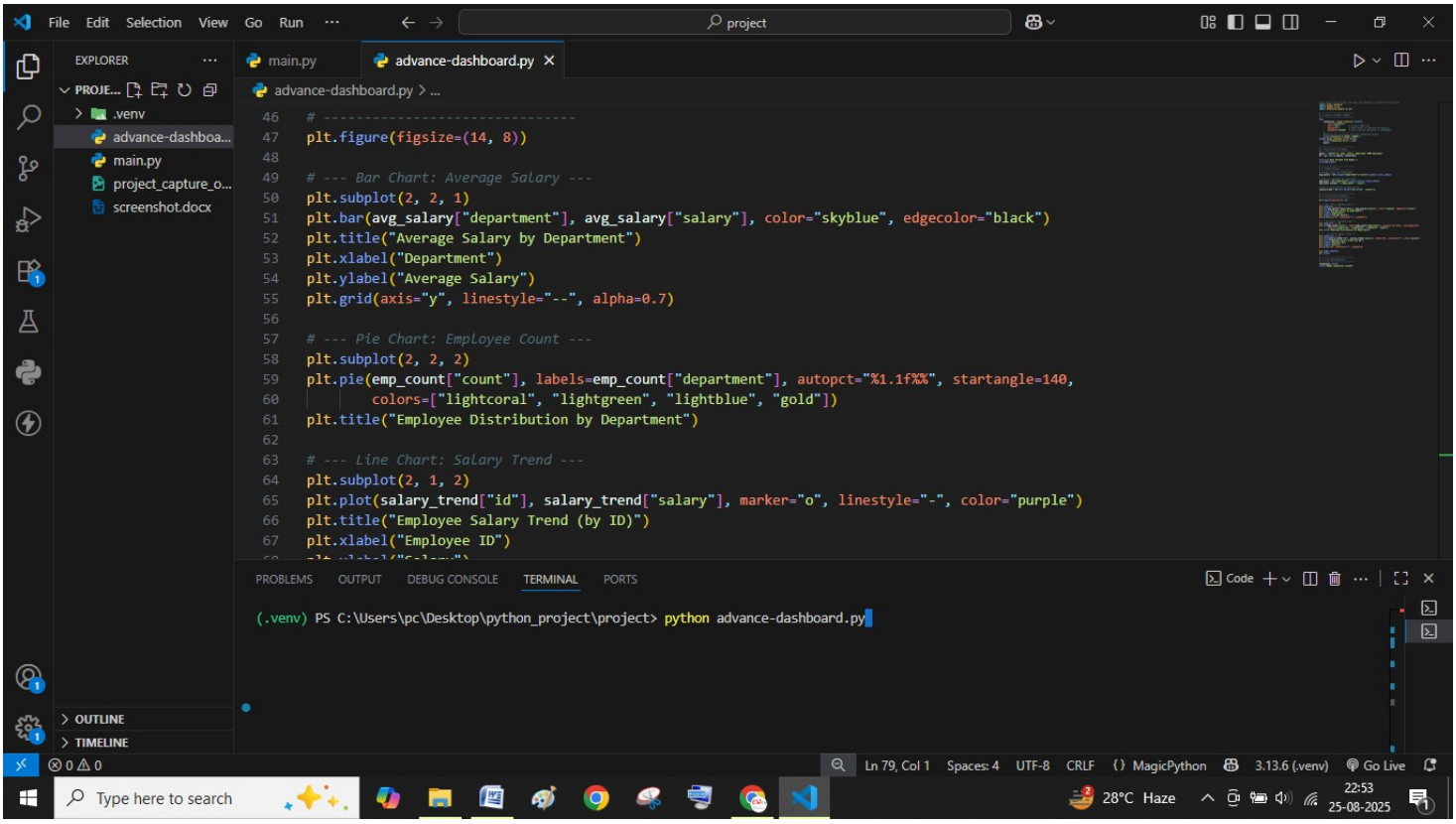




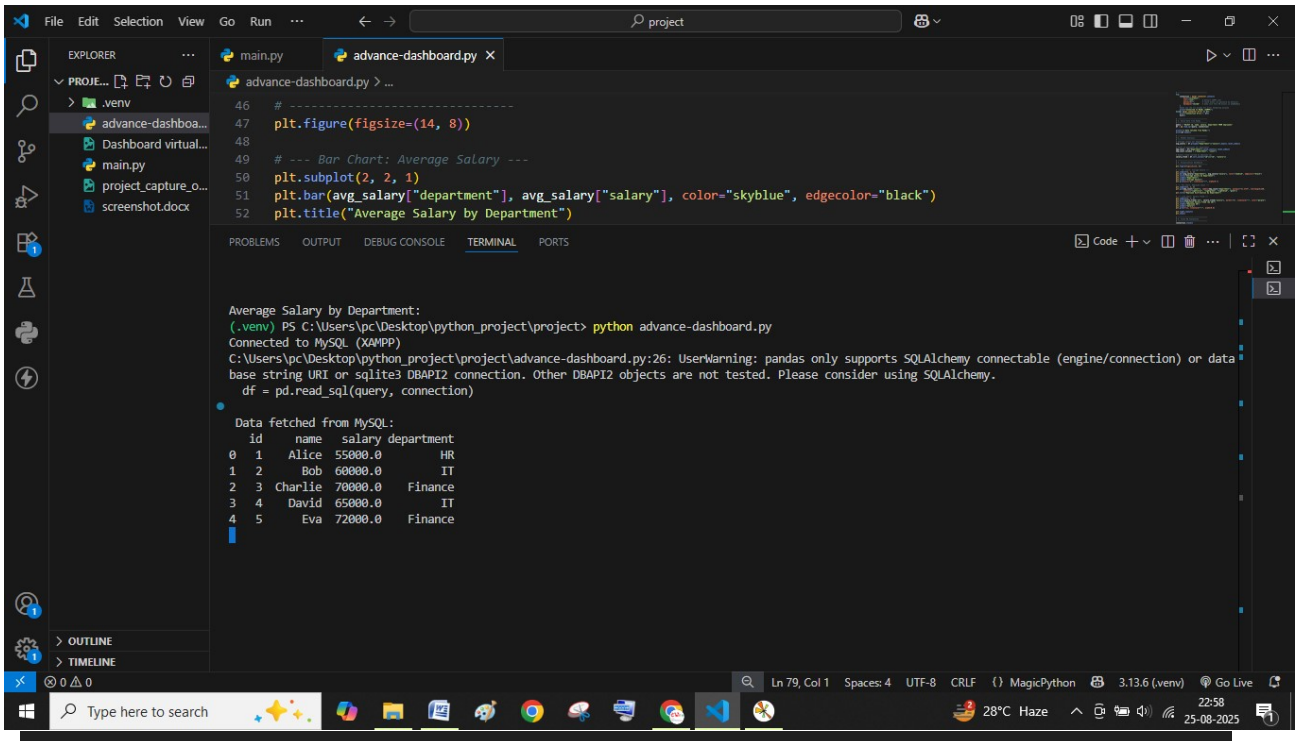
Execute the program with this code

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
```

```python
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 handeling 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