

Task 7

June 5, 2025

```
[1]: pip install pandas matplotlib
```

```
Defaulting to user installation because normal site-packages is not writeable
Looking in links: /usr/share/pip-wheels
Requirement already satisfied: pandas in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (2.1.4)
Requirement already satisfied: matplotlib in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (3.8.0)
Requirement already satisfied: numpy<2,>=1.22.4 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
pandas) (1.26.4)
Requirement already satisfied: python-dateutil>=2.8.2 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
pandas) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
pandas) (2023.3)
Requirement already satisfied: contourpy>=1.0.1 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (1.2.0)
Requirement already satisfied: cycler>=0.10 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (1.4.4)
Requirement already satisfied: packaging>=20.0 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (23.2)
Requirement already satisfied: pillow>=6.2.0 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (10.2.0)
```

Requirement already satisfied: pyparsing>=2.3.1 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
matplotlib) (3.0.9)

Requirement already satisfied: six>=1.5 in
/opt/conda/envs/anaconda-2024.02-py310/lib/python3.10/site-packages (from
python-dateutil>=2.8.2->pandas) (1.16.0)

Note: you may need to restart the kernel to use updated packages.

```
[1]: import sqlite3
import pandas as pd
import matplotlib.pyplot as plt

# Step 1: Connect to SQLite database
conn = sqlite3.connect("sales_data.db")

# Step 2: Define SQL query
query = """
SELECT product,
       SUM(quantity) AS total_qty,
       SUM(quantity * price) AS revenue
FROM sales
GROUP BY product
"""

# Step 3: Load results into pandas DataFrame
df = pd.read_sql_query(query, conn)

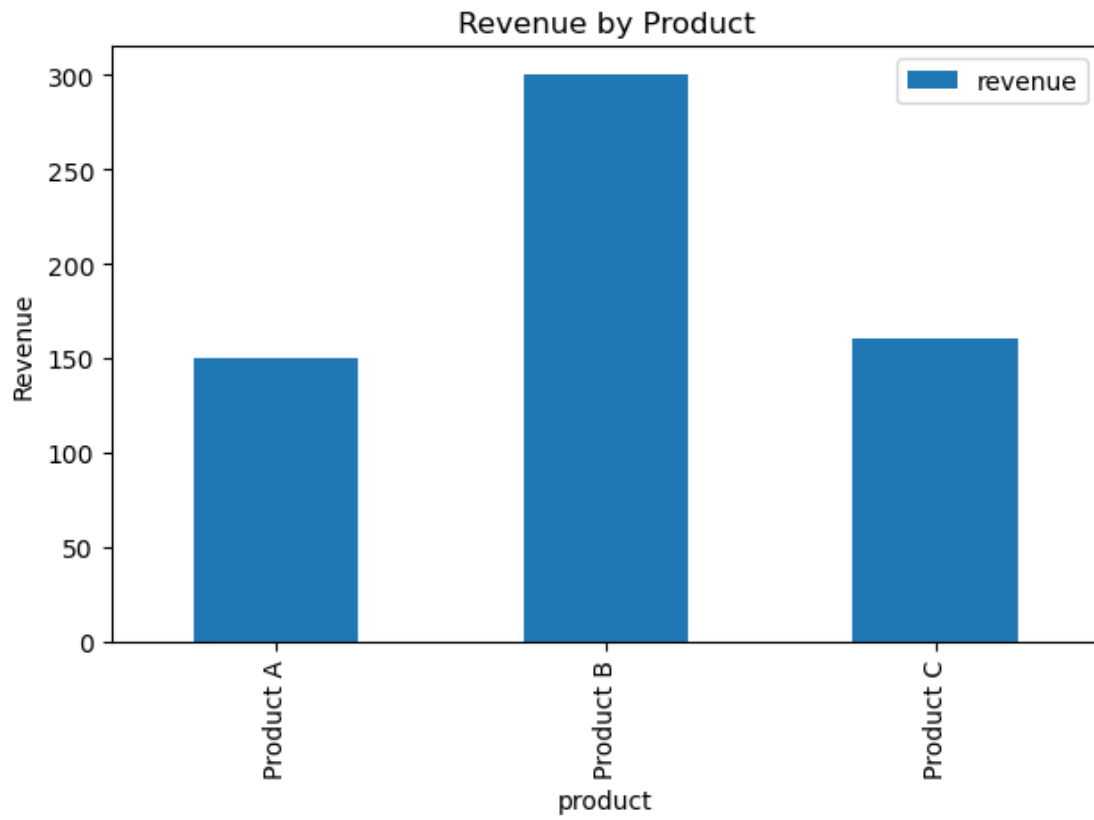
# Step 4: Print summary data
print(df)

# Step 5: Plot bar chart (product vs revenue)
df.plot(kind='bar', x='product', y='revenue', title='Revenue by Product')
plt.ylabel('Revenue')
plt.tight_layout()

# Optional: Save chart to file
plt.savefig("sales_chart.png")

# Show chart
plt.show()
```

	product	total_qty	revenue
0	Product A	30	150.0
1	Product B	40	300.0
2	Product C	16	160.0



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