```
[3]:  !pip install ipython-sql
```

Requirement already satisfied: ipython-sql in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (0.5.0)
Requirement already satisfied: prettytable in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (from ipython-sql) (3.16.0)
Requirement already satisfied: ipython in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython-sql) (9.0.2)
Requirement already satisfied: sqlalchemy>=2.0 in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (from ipython-sql) (2.0.40)
Requirement already satisfied: sqlparse in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (from ipython-sql) (0.5.3)
Requirement already satisfied: six in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython-sql) (1.17.0)
Requirement already satisfied: ipython-genutils in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (from ipython-sql) (0.2.0)
Requirement already satisfied: greenlet>=1 in c:\users\lenovo\appdata\local\programs\python\python313\lib\site-packages (from sqlalchemy>=2.0->ipython-sql) (3.2.0)
Requirement already satisfied: typing-extensions>=4.6.0 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from sqlalchemy>=2.0->ipython-sql) (4.12.2)
Requirement already satisfied: colorama in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (0.4.6)
Requirement already satisfied: decorator in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (5.2.1)
Requirement already satisfied: ipython-pygments-lexers in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (1.1.1)
Requirement already satisfied: jedi>=0.16 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (0.19.2)
Requirement already satisfied: matplotlib-inline in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (0.1.7)
Requirement already satisfied: prompt_toolkit<3.1.0,>=3.0.41 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (3.0.50)
Requirement already satisfied: pygments>=2.4.0 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (2.19.1)
Requirement already satisfied: stack_data in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (0.6.3)
Requirement already satisfied: traitlets>=5.13.0 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from ipython->ipython-sql) (5.14.3)
Requirement already satisfied: wcwidth in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from prettytable->ipython-sql) (0.2.13)
Requirement already satisfied: parso<0.9.0,>=0.8.4 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from jedi>=0.16->ipython->ipython-sql) (0.8.4)
Requirement already satisfied: executing>=1.2.0 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from stack_data->ipython->ipython-sql) (2.2.0)
Requirement already satisfied: asttokens>=2.1.0 in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from stack_data->ipython->ipython-sql) (3.0.0)
Requirement already satisfied: pure-eval in c:\users\lenovo\appdata\roaming\python\python313\site-packages (from stack_data->ipython->ipython-sql) (0.2.

```python
import sqlite3
import pandas as pd
import matplotlib.pyplot as plt  #matplotlib for graphical representation
```

```python
# Create and insert some data

conn.execute('''
CREATE TABLE IF NOT EXISTS sales (
    product TEXT,
    quantity INTEGER,
    price REAL
)
''')


conn.executemany('''
INSERT INTO sales (product, quantity, price) VALUES (?, ?, ?)
''', [
    ('Apple', 10, 15),
    ('Banana', 20, 5),
    ('Apple', 5, 15),
    ('Orange', 8, 10),
    ('Banana', 15, 5)
])

conn.commit()
```

```python
query = """
SELECT
    product,
    SUM(quantity) AS total_qty,
    SUM(quantity * price) AS revenue
FROM sales
GROUP BY product
"""

df = pd.read_sql_query(query, conn)
```

```python
# Step 5: Display the DataFrame
print(df)
```
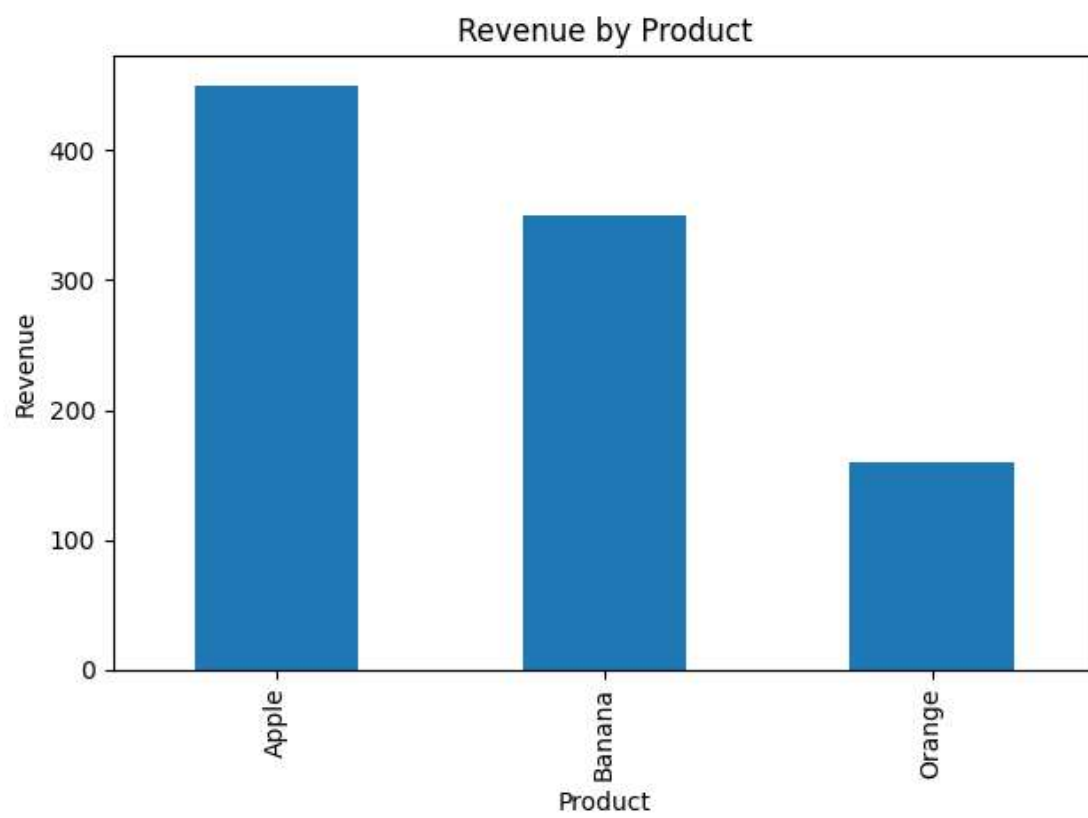
```
   product  total_qty  revenue
0    Apple         30    450.0
1   Banana         70    350.0
2   Orange         16    160.0
```

```
14]: df.plot(kind='bar', x='product', y='revenue', legend=False)
     plt.title('Revenue by Product')
     plt.xlabel('Product')
     plt.ylabel('Revenue')
     plt.tight_layout()
     plt.savefig('sales_chart.png')
     plt.show()
```

Revenue by Product

Code

Revenue by Product

```
[14]: df.plot(kind='bar', x='product', y='revenue', legend=False)
      plt.title('Revenue by Product')
      plt.xlabel('Product')
      plt.ylabel('Revenue')
      plt.tight_layout()
      plt.savefig('sales_chart.png') # Here i have use it for save it as imge in .png formate
      plt.show()
```

```sql
CREATE DATABASE IF NOT EXISTS sales_db;
USE sales_db;

-- Create sales table
CREATE TABLE sales (
    id INT AUTO_INCREMENT PRIMARY KEY,
    product VARCHAR(100),
    quantity INT,
    price DECIMAL(10, 2)
);

-- Insert data
INSERT INTO sales (product, quantity, price) VALUES
('Apple', 10, 2.5),
('Banana', 5, 1.0),
('Apple', 7, 2.5),
('Orange', 8, 3.0),
('Banana', 10, 1.0);

select* from sales

select product,sum(quantity) as total_Quantity, sum(price * quantity) as Total_revenue from sales group by product;
```

```
select product sum(quantity) as total Quantity, sum(price * quantity) as Total revenue from sales group by product;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Result Grid | Form Editor

	id	product	quantity	price
▶	1	Apple	10	2.50
	2	Banana	5	1.00
	3	Apple	7	2.50
	4	Orange	8	3.00
	5	Banana	10	1.00
*	NULL	NULL	NULL	NULL

sales 1 ✕

Apply | Revert | Context Help | Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
❌ 1	21:52:29	select* from sales	Error Code: 1046. No database selected Select the default DB to be used by double-clicking it...	0.000 sec
✅ 2	21:52:41	USE sales_db	0 row(s) affected	0.000 sec
✅ 3	21:52:46	select* from sales	5 row(s) returned	0.000 sec / 0.000 sec

```
21 •    select* from sales

22
23 ✗    select product,sum(quantity) as total_Quantity, sum(price * quantity) as Total_revenue from sales group by product;
```

| Result Grid | 📊 | 🔄 Filter Rows: | Export: 📋 | Wrap Cell Content: 🔤 |

	product	total_Quantity	Total_revenue
▶	Apple	17	42.50
	Banana	15	15.00
	Orange	8	24.00

Result 2 ✕

ℹ Read Only

Context Help   Snippets

Output

Action Output

	#	Time	Action	Message	Duration / Fetch
✓	2	21:52:41	USE sales_db	0 row(s) affected	0.000 sec
✓	3	21:52:46	select* from sales	5 row(s) returned	0.000 sec / 0.000 sec
✓	4	21:53:15	select product,sum(quantity) as total_Quantity, sum(price * quantity) as Total_revenue from s...	3 row(s) returned	0.000 sec / 0.000 sec