📊SQLytics: A Python-Powered Sales Dashboard

via Python | SQLite | Matplotlib | Jupyter Notebook

Unboxing Sales Insights with Python & SQLite

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🎯OBJECTIVE

This task demonstrates how to use Python, SQLite, SQL queries, and Matplotlib to analyze and visualize sales data directly from a database.

📁 TASK OVERVIEW

- Created a SQLite database with a sales table
- Inserted sample sales data (products, quantity, price)
- Ran SQL queries inside Python to get:

✅ Total quantity sold

✅ Total revenue

✅ Revenue by product

- Visualized results using Matplotlib bar chart
- Displayed summary in a neat table using pandas

📦 TOOLS USED

- Python 3.x
- SQLite (with sqlite3 module)
- SQL (GROUP BY, SUM)
- pandas
- matplotlib

STEPS
-- Connected to SQLite database using Python

```
# Step 1: Connect to a new SQLite database (or create if it doesn't exist)
conn = sqlite3.connect('sales_data.db')
cursor = conn.cursor()

# Step 2: Create a 'sales' table
cursor.execute('''
CREATE TABLE IF NOT EXISTS sales (
    id INTEGER PRIMARY KEY AUTOINCREMENT,
    product TEXT,
    quantity INTEGER,
    price REAL
)
''')

# Step 3: Insert completely new & unique sample data
```

```
✅ Database 'sales_data.db' created with unique sample data inserted!
```

-Run SQL Query and show data

Sample Data from sales table:

	id	product	quantity	price
0	1	Ice Cream	14	3.0
1	2	Lemonade	20	1.8
2	3	Protein Bar	10	2.5
3	4	Coconut Water	8	4.5
4	5	Herbal Tea	18	2.2

	id	product	quantity	price	revenue
0	1	Ice Cream	14	3.0	42.0
1	2	Lemonade	20	1.8	36.0
2	3	Protein Bar	10	2.5	25.0
3	4	Coconut Water	8	4.5	36.0
4	5	Herbal Tea	18	2.2	39.6

```
df['revenue'] = df['quantity'] * df['price']
```

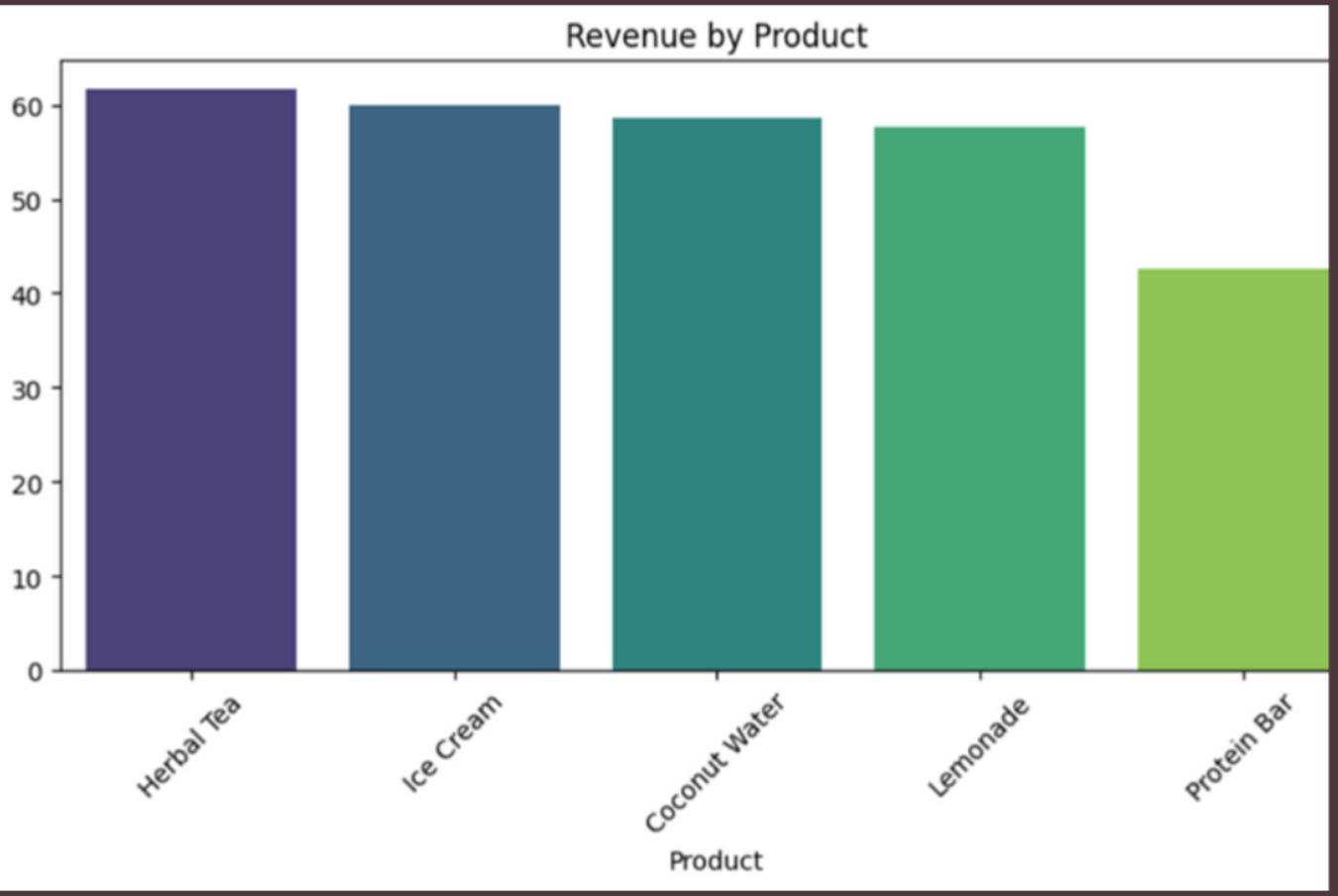
-Executed SQL query to fetch product-wise total quantity and revenue

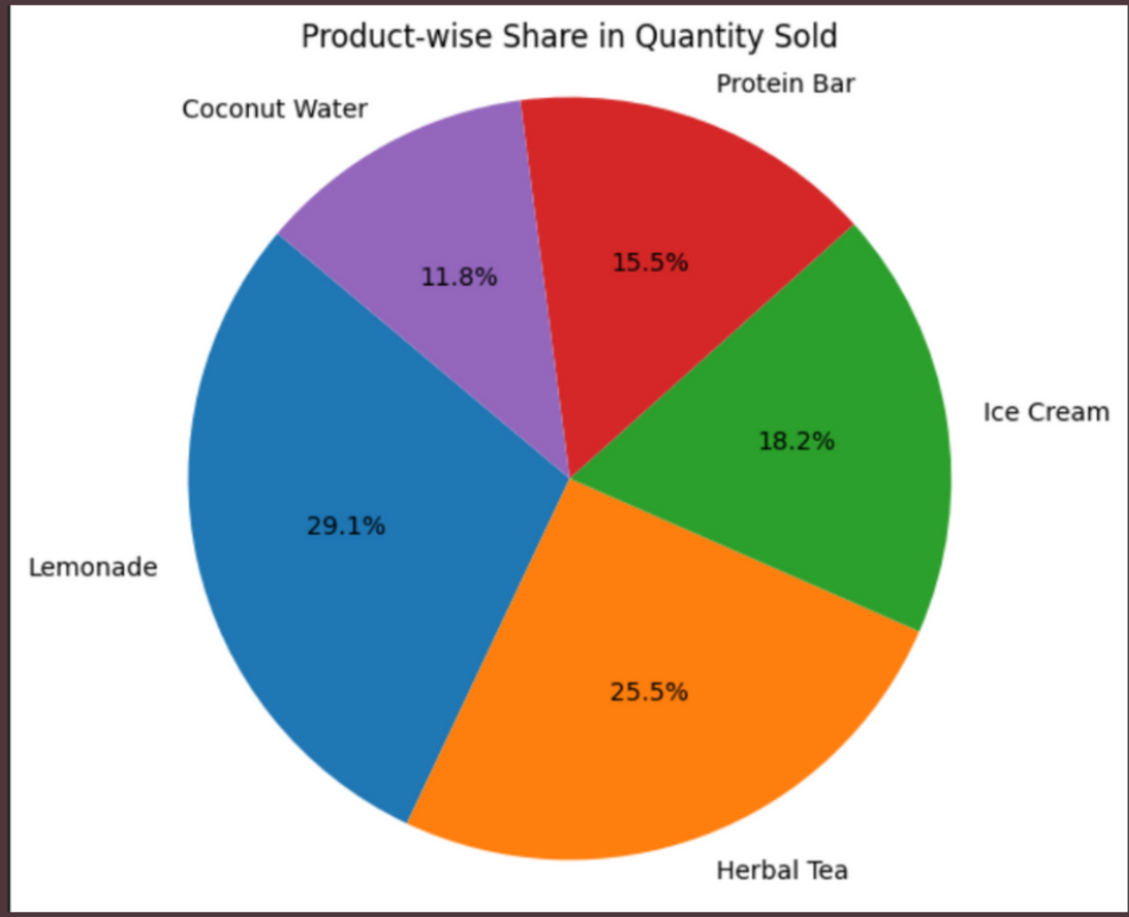
Basic Stats (Total Revenue, Quantity, etc.)

```
print("💵 Total Revenue:", df['revenue'].sum())
print("🛍️ Total Quantity Sold:", df['quantity'].sum())
print("🧠 Average Price per Unit:", df['price'].mean())
```

```
💵 Total Revenue: 280.2
🛍️ Total Quantity Sold: 110
🧠 Average Price per Unit: 2.8
```

-Loaded SQL result into pandas and Plotted a charts using matplotlib





SUMMARY TABLE

-Performed aggregation with GROUP BY

-Used pandas for tabular data handling

	product	total_quantity	total_revenue
1	Herbal Tea	28	61.6
2	Ice Cream	20	60.0
0	Coconut Water	13	58.5
3	Lemonade	32	57.6
4	Protein Bar	17	42.5

Thank You!