Summary Report: Python + SQLite Sales Data Analysis

Here's a **summary report** based on the contents of your Jupyter Notebook (Task-7(python connection with sqlite3).ipynb), which demonstrates using Python and SQLite to analyze basic sales data:

Objective:

To demonstrate a simple data pipeline using:

- Python's built-in sqlite3 module to connect and query SQLite database
- pandas for data manipulation
- matplotlib for visualization

1. Database Creation

The notebook creates SQLite database file:
sales_data.db

Inside it, a table named **sales** is created with the following schema:

CREATE TABLE IF NOT EXISTS sales (id INTEGER PRIMARY KEY AUTOINCREMENT, product TEXT,

quantity INTEGER, price REAL)

Sample data is inserted for three products: Apple, Banana, and Orange, with different quantities and prices.

2. SQL Query Execution

A basic SQL query is executed to summarize the sales:

SELECT product, SUM (quantity) AS total_qty, SUM(quantity * price) AS revenue,

FROM sales GROUP BY product

This query groups data by product, calculates:

- total_qty — total quantity sold
- revenue — total revenue (quantity * price)

3. Data Analysis in Pandas

The SQL results are imported into a pandas Data Frame using:

df = pd.read_sql_query(query, conn)

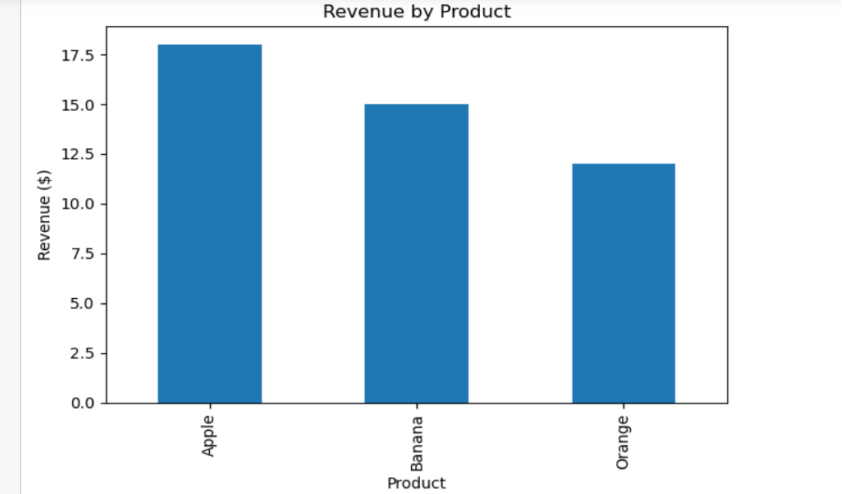
Then the Data Frame is printed to display the summary.

4. Visualization

A **bar chart** is created to visualize revenue per product using:

df.plot(kind='bar', x='product', y='revenue')

- X-axis: Product name
- Y-axis: Revenue
- Library used: matplotlib.pyplot
- Saving: plt.savefig("sales_chart.png")

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Sales Summary:
  product  total_qty  revenue
0   Apple         15     18.0
1  Banana         30     15.0
2  Orange         15     12.0
```

Outcome

The notebook successfully demonstrates how to:

- Create and populate a SQLite database in Python
- Run SQL queries from Python
- Load query results into pandas
- Visualize results with matplotlib