**Project: E-commerce Sales Analysis**

**Skills You’ll Practice**

* Time series analysis
* Grouping and aggregation
* Data visualization
* Revenue insights by category and method

**Step-by-Step Guide**

**Step 1: Set Up Your Environment**

1. Unzip the file:  
    ecommerce\_sales\_analysis\_project.zip
2. Open ecommerce\_sales\_analysis.ipynb in:
   * Jupyter Notebook
   * Google Colab
   * VS Code with Jupyter support

**Step 2: Load and Prepare the Data**

**Goal:** Prepare the dataset for time-based and categorical analysis.

**Step 3: Explore the Data**

Check for:

* Data types
* Nulls or missing values
* Distribution of order values, discounts, revenue, etc.

**Step 4: Revenue Over Time**

**Insight:** Spot upward or downward trends in monthly revenue.

**Step 5: Revenue by Product Category**

Visualize which product categories perform best:

**Insight:** Find top-selling categories like Electronics or Clothing.

**Step 6: Analyze Payment Methods**

Check customer preferences:

**Insight:** See if Credit Card is most used, or if PayPal/Net Banking is rising.

**Step 7: Optional Deep-Dive Ideas**

Take it a step further by analyzing:

* Average revenue per order by category
* Discount vs. revenue relationship
* Most frequent customers (repeat orders)
* Average order value by month

**Step 8: Document Your Insights**

At the end of the notebook, write a markdown cell summarizing:

* Trends in revenue
* Top-performing categories
* Popular payment methods
* Business recommendations (e.g. promote best-sellers)