

Hands-On Lab: Generative AI for Q and A

Estimated time needed: 30 minutes

Overview

In this lab, you will learn how to use generative AI to get insights into data through question answers. For this lab, you will need to create your login on <https://app.akkio.com/>

Objectives

After completing this lab, you will be able to:

1. Sign in on <https://app.akkio.com/>
2. Upload data set
3. Q and A to know the dataset

Dataset

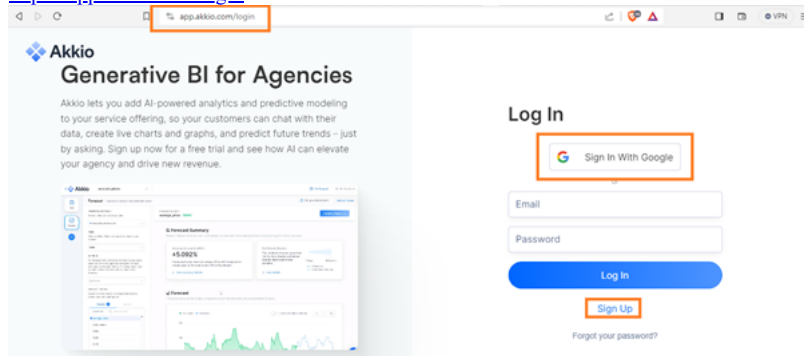
The data set is generated using a generative AI prompt. Keep the Ctrl key pressed and download it from [here](#).

The data set's attributes include product ID, title, price, sales rank, brand, category, and availability. These attributes provide product details, such as identification, pricing, popularity (sales rank), brand, category, and availability status.

Task 1: Signing in on Akkio

Step 1: Click the link below and then click **Sign Up**; if you do not have login credentials.

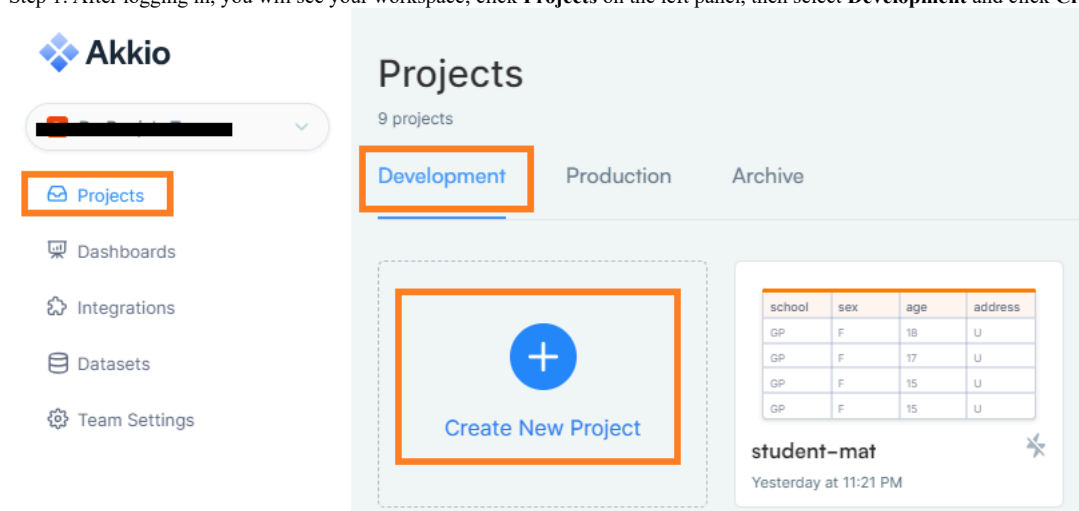
<https://app.akkio.com/login>



Step 2: Click **Start the free trial** and follow the instructions to create your login credentials for Akkio. Once the signup process is complete, log in to the platform.

Task 2: Upload the dataset

Step 1: After logging in, you will see your workspace; click **Projects** on the left panel, then select **Development** and click **Create New Project**.



Step 2: A new window will pop up; select **Prepare** and then click **Table** to upload the CSV file of 'electronics_dataset.csv'.

Prepare Explore Predict Deployments Reports

Pick a data source to start

Table
Upload and configure datasets
CSV EXCEL JSON PARQUET

Google Sheets
Not Connected

Snowflake (Beta)
Not Connected

Salesforce
Not Connected

Step 3: Click **Upload Dataset** and select the file 'electronics_dataset.csv' from where you saved it on your machine. Keep the Ctrl key pressed and download it from [here](#) if you still need to do so.

← Back Search for datasets...

+

Upload Dataset

Note: DO NOT describe the goal of this project to get your AI-generated report. Close this window.

Task 3: Q and A the data set for better insights

Once the data set is uploaded, you must explore it with natural language-based questions.

Step 1: Click the **Explore** tab. Check for the dataset's name to ensure you have questions on the correct data, and then in the chat text box, start with your questions. You can begin with the suggested questions as given below.

Prepare **Explore** Predict Deployments Reports

electronics_dataset.csv 100 rows, 5 columns No transforms applied

+ New Chat

Connect Slack Account (Beta)

Chat Explore

Explore your data

Ask a question about your dataset...

Suggestions

What is the average price of each product?

Make a scatterplot of quantity ordered vs. price each

Show me a histogram of order dates.

Question 1: Identify the products with the highest sales.
Prompt: What are the top-selling products?

D What are the top-selling products?

Connect Slack Account (Beta) Custom Instruction

Akkio AI 8:11 pm

To determine the top-selling products, we need to calculate the total quantity ordered for each product.

Akkio AI 8:11 pm

The top-selling products are:

1. Keyboard
2. Tablet
3. Monitor
4. Desk
5. External Hard Drive

These products have the highest total quantity ordered.

Now you know that the top-selling products are keyboards, tablets, and so on.

Question 2: Determine which product has the highest average selling price by calculating the average price for each product.

Prompt: Which product has the highest average price?

D Which product has the highest average price?

Akkio AI 9:16 pm

To find the product with the highest average price, we need to calculate the average price for each product and then determine the maximum value.

Akkio AI 9:16 pm

The product with the highest average price is "Printer".

Question 3: Determine the total revenue for the specified time frame.

Prompt: What is the total revenue for the latest two months?

D What is the total revenue for the latest two months?

Akkio AI 9:17 pm

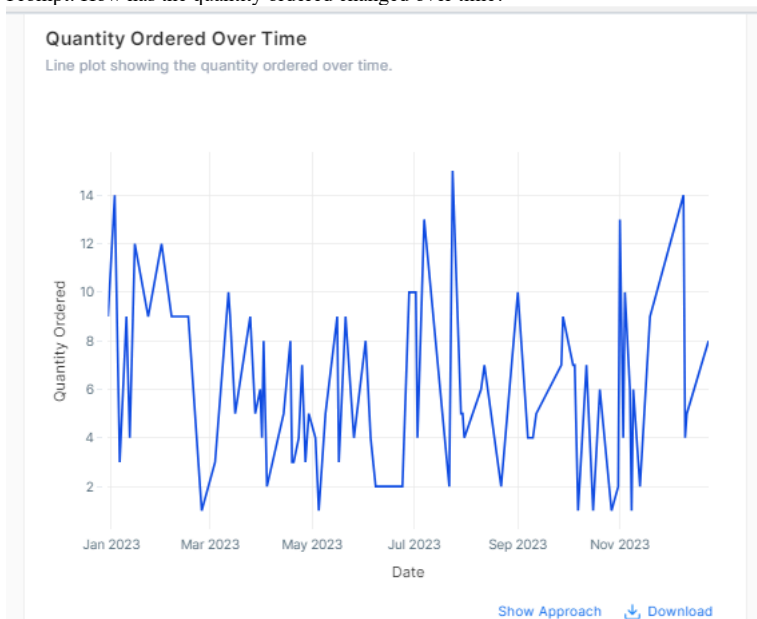
To calculate the total revenue for the latest two months, we need to filter the data for the latest two months and then sum the revenue.

Akkio AI 9:18 pm

The total revenue for the latest two months is \$7,744.10.

Question 4: See patterns in the number of items ordered over a period.

Prompt: How has the quantity ordered changed over time?



Click the **Show Approach** at the end of the chart and see the description of how the chart is developed.

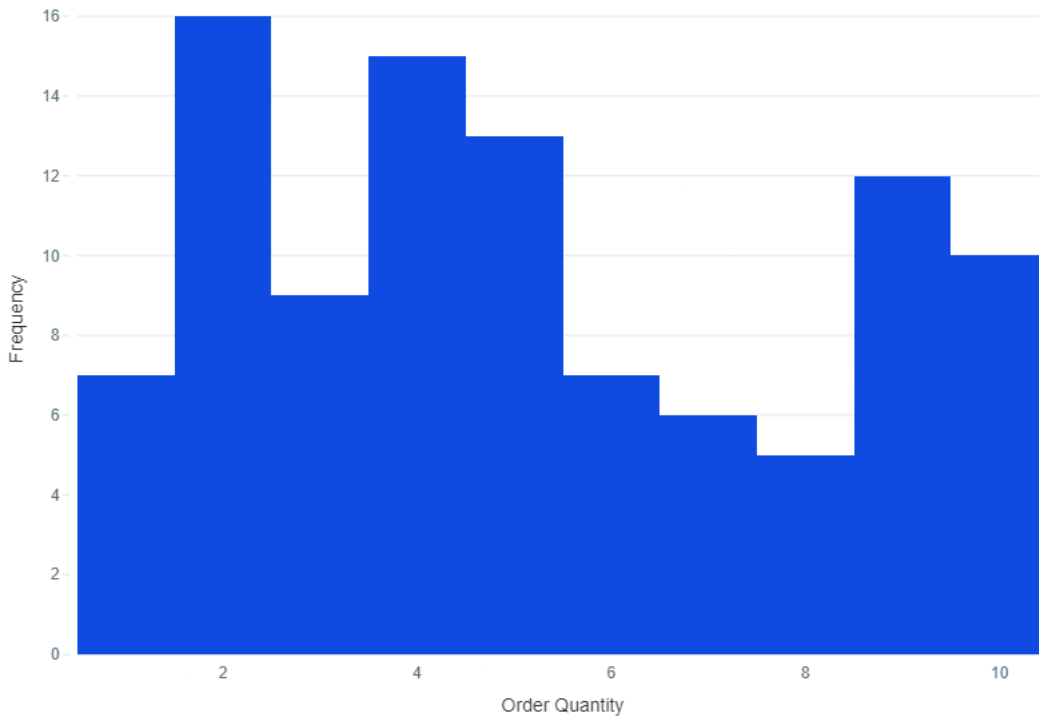
This chart shows the quantity of items that were ordered over time. To create this chart, we first converted the "Order Date" column in the dataset to a date format. Then, we grouped the data by the order date and calculated the sum of the "Quantity Ordered" for each date. This gave us the total quantity of items ordered on each day. Next, we sorted the data by the order date in ascending order. This ensured that the dates were plotted in chronological order on the x-axis of the chart. Finally, we created a line plot using the Plotly Express library. We specified the x-axis as the order date and the y-axis as the quantity ordered. We also added titles to the x-axis and y-axis to provide context for the chart. The resulting chart shows how the quantity of items ordered has changed over time, allowing us to identify any trends or patterns in the data.

Example SQL

```
SELECT
    "Order Date",
    SUM("Quantity Ordered") AS "Quantity Ordered"
FROM
    YOUR_DATASET
GROUP BY
    "Order Date"
ORDER BY
    "Order Date" ASC;
```

Question 5: Determine typical order sizes by histogram of the distribution of order quantities.

Prompt 5: What is the distribution of order quantities?



Question 6: Determine the count of orders placed for different quantities of items.

Prompt 6: How many orders were placed for different quantities of items?

A CSV will be generated for this prompt.

Order Count by Quantity

Number of orders placed for different quantities of items.

index	Quantity	Order Count
6	1	7
0	2	16
5	3	9
1	4	15
2	5	13
7	6	7
8	7	6
9	8	5

Question 7: Explain if there's a relationship between the quantity ordered and the price of each.

Prompt 7: Are there any correlations between the quantity ordered and price each?

D

Are there any correlations between quantity ordered and price each?

Akkio AI 9:32 pm

There is a weak negative correlation (-0.07) between the quantity ordered and the price each.

Question 8: Analyze sales patterns to identify the most profitable days.

Prompt 8: Which day of the week has the highest sales?

D

Which day of the week has the highest sales

Akkio AI

The day of the week with the highest sales is Tuesday.

Question 9: Describe the typical order size.

Prompt 9: What is the average order size?

D

What is the average order size?

Akkio AI

The average order size is 5.23.

Practice Q and A

1. Look for co-occurrence patterns to find goods commonly bought together.
2. Monitor a product's sales performance to spot trends and seasonality.

Conclusion

In this lab, you learned how to use generative AI to get insights into data through question answers using the Akkio tool.

Author(s)

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