

Streamlit Code Explanation

1..import streamlit as st import pandas as pd

- These lines import the necessary libraries.
- streamlit is used to build the web app.
- pandas is used to load and manipulate CSV data.

2.. st.title("📊 Sales Data Visualization")

- Sets the main title of the web app that appears at the top of the page.

3...data = pd.read_csv("employees.csv")

Loads the data from a CSV file named employees.csv into a pandas DataFrame called data.

4.. st.subheader("📌 Available Columns")st.write(list(data.columns))

- Displays a subheader titled **"Available Columns"**.
- Shows the list of column names from the CSV file.

5.. st.subheader("📄 Data Preview" st.dataframe(data.head()))

- Displays another subheader titled **"Data Preview"**.
- Shows the first 5 rows of the dataset in a scrollable, interactive table.

6.. if len(data.columns) >= 2:

Checks if the dataset has at least 2 columns. This is required to plot a chart

7.. x_axis = st.selectbox("Select X-axis", data.columns)

y_axis = st.selectbox("Select Y-axis", data.columns.drop(x_axis))

x_axis: the column for the X-axis.

y_axis: the column for the Y-axis (excluding the X-axis choice to avoid repetition).

8.. chart_type = st.selectbox("Chart Type", ["Line Chart", "Bar Chart"])

Allows the user to select the type of chart: either **Line** or **Bar** chart.

```
9.. chart_data = data[[x_axis, y_axis]].dropna()
```

```
    chart_data = chart_data.set_index(x_axis)
```

🔍 Filters the DataFrame to include only the selected X and Y columns.

🔍 Removes rows with missing values using dropna().

🔍 Sets the X-axis column as the index for plotting.

```
10.. if chart_type == "Line Chart":
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```
    st.line_chart(chart_data)
```

```
else:
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```
    st.bar_chart(chart_data)
```

- Displays the selected chart type using Streamlit's built-in chart functions.
- Either st.line_chart() or st.bar_chart() is used based on user selection.

```
11.. else: st.warning("The CSV file must contain at least 2 columns.")
```

- If the dataset has fewer than 2 columns, a warning message is displayed.