Objectives for the Songs dataset:



**Artist Analysis:**

* Which artist has the most songs in the dataset?
* What is the geographic distribution of the artists based on latitude and longitude?

 **Album Analysis:**

* Which album has the highest number of tracks?
* Are there any albums that feature multiple artists or are by the same artist?

 **Song Characteristics:**

* What is the average danceability of songs in the dataset?
* How does the duration of songs vary across different albums or artists?

 **Temporal Trends:**

* What is the distribution of song release years? Are there any noticeable trends or patterns over time?
* How does the tempo of songs vary by year or by artist?

 **Key and Signature Analysis:**

* What are the most common key signatures in the dataset?
* Is there a relationship between key signature confidence and song popularity?

 **Geographic and Location-Based Analysis:**

* How does the location of the artist (latitude and longitude) correlate with other song attributes like tempo and danceability?
* Are there any patterns or trends in song characteristics based on the artist’s location?

 **Danceability and Tempo Correlation:**

* Is there a correlation between danceability and tempo in the dataset?
* How does danceability vary between different albums or artists?

 **Song Duration and Time Signature:**

* What is the average duration of songs with different time signatures?
* How does the time signature confidence vary across different genres or artists?

 **Album and Artist Location:**

* Is there a noticeable difference in song characteristics between albums from different locations (e.g., California vs. London)?
* How does the artist’s location influence the attributes of their songs?

 **Track-Specific Insights:**

* Which song has the highest or lowest danceability?
* Are there any standout tracks in terms of tempo or duration that deviate significantly from the norm?

Objectives for E-Commerce Dataset

 **Sales by Product:**

* **Bar Chart**: Display the total sales quantity for each product. This helps identify which products are the most and least popular.
* **Pie Chart**: Show the proportion of total sales contributed by each product. This can give a sense of the product mix and its significance in overall sales.

 **Revenue Analysis:**

* **Bar Chart**: Plot total revenue (Quantity \* UnitPrice) for each product. This highlights which products generate the most revenue.
* **Line Chart**: Display revenue trends over time if you have data spanning multiple dates. This helps understand seasonal patterns or sales growth.

 **Sales Trends by Date:**

* **Line Chart**: Illustrate the total sales (sum of UnitPrice \* Quantity) over time. This visual can reveal trends, spikes, or drops in sales.
* **Heatmap**: Show sales volume by day of the week and time of day. This can help identify peak sales periods and optimal shopping times.

 **Customer Insights:**

* **Bar Chart**: Display the number of transactions or total spending by each CustomerID. This identifies key customers and their purchase behaviors.
* **Geographical Map**: If you have data for multiple countries, map out sales by country to see which regions contribute most to sales.

 **Unit Price Distribution:**

* **Histogram**: Show the distribution of unit prices across different products. This helps in understanding the pricing strategy and range.
* **Box Plot**: Visualize the spread and outliers in unit prices. This can reveal pricing anomalies or trends.

 **Quantity Sold Distribution:**

* **Histogram**: Illustrate the distribution of quantities sold for each product. This helps understand typical purchase sizes and identify outliers.

 **Product-Specific Revenue Contribution:**

* **Stacked Bar Chart**: Show revenue contribution from different products over time or by invoice. This can highlight changes in product performance.

 **Invoice Analysis:**

* **Bar Chart**: Plot the number of items sold per invoice. This helps understand the average transaction size.
* **Pie Chart**: Show the proportion of total revenue per invoice. This can help identify high-value invoices.

 **Sales by Country:**

* **Bar Chart**: Compare total sales by country. This highlights which countries contribute the most to sales.
* **Map Visualization**: If applicable, visualize sales data on a map to show regional sales performance.

 **Sales Performance by Product Group:**

* **Treemap**: Show sales performance for each product category. This can be useful if you have hierarchical data (e.g., categories or groups of products).