**Tools Used (Software, Python Packages)**

**Software/Packages:**

* Jupyter Notebook, Python, Matplotlib, Seaborn, and NumPy

**Questions Asked**

1. How does a song's performance on Spotify compare to other platforms?
2. What factors influence the performance of a song over the course of the year?
3. What impact does being classified as an "explicit" track have on performance?
4. What countries contribute the most to song performance on different platforms?
5. How does the presence of a song on multiple platforms influence its Spotify streaming success?

**Insights Discovered**

1. **Performance Correlations:**
   * We found varying degrees of correlation between Spotify streams and other platforms. Finding that there was moderate correlation between a songs performance on Spotify and the other platforms. If we compare this to the average correlation between Spotify and the combined platform. We see that the combined correlation is higher than the average. Telling us that a song has a stronger performance on Spotify when it performs better on multiple other platforms as opposed to a single platform.
2. **Seasonal Trends:**
   * The average performance of songs on Spotify varied by season, with certain seasons showing stronger performance. This indicates that the timing of a song’s release could influence its success.
3. **Explicit vs. Non-Explicit Tracks:**
   * Non-Explicit tracks showed higher average performance across most platforms compared to explicit tracks. This suggests that non-explicit content may have a broader audience.
4. **Top Performing Countries:**
   * The top countries for streaming performance on platforms varied, but it was clear that countries preferred some platforms over others.

**Recommendations**

* Songs would perform better when released during the Fall or Winter months
* It would be better to release a song to as many platforms as possible.
* Non explicit songs are better performing.
* Certain platforms favor songs from one country to another. It would be better to focus on the platforms with the best performance.

**Future Work**

**Sentiment Analysis on Lyrics:**

* **Objective:** Analyze the sentiment of lyrics. Use natural language processing tools such as TextBlob to analyze sentiment. Track how positive or negative sentiments affect streaming counts and platform engagement.

**Artist Characteristics:**

* Study the relationship between an artist’s characteristics and the streaming performance of their songs.

**Genre-Specific Insights:**

* Analyzing how specific genres perform across platforms, seasons, and markets would allow for more tailored recommendations and marketing strategies for artists.

This project provides valuable insights into song performance across different music streaming platforms and highlights strategies to improve song visibility and engagement. Moving forward, deeper analysis of marketing impacts and genre-specific trends will offer even more actionable insights.