DATA VISUALIZATION - ASSIGNMENT 1

I. TITLE

Visualizing Spotify's Dataset: A Deep Dive into Music Trends, Music Platforms, and Artist Influence

II. OVERVIEW

The report provides an analysis of the Most Streamed Spotify Songs 2023 dataset from Kaggle. The aim is to use the data visualization for exploring the recent trends in music consumption, platform preferences among users, and artists influences on the digital platform, Spotify.

III. INTRODUCTION

The Spotify dataset provides valuable insights into listener preferences, platform usage, and artist influence. Understanding these patterns is vital for artists, producers, and digital platforms to remain relevant and cater to their audiences effectively.
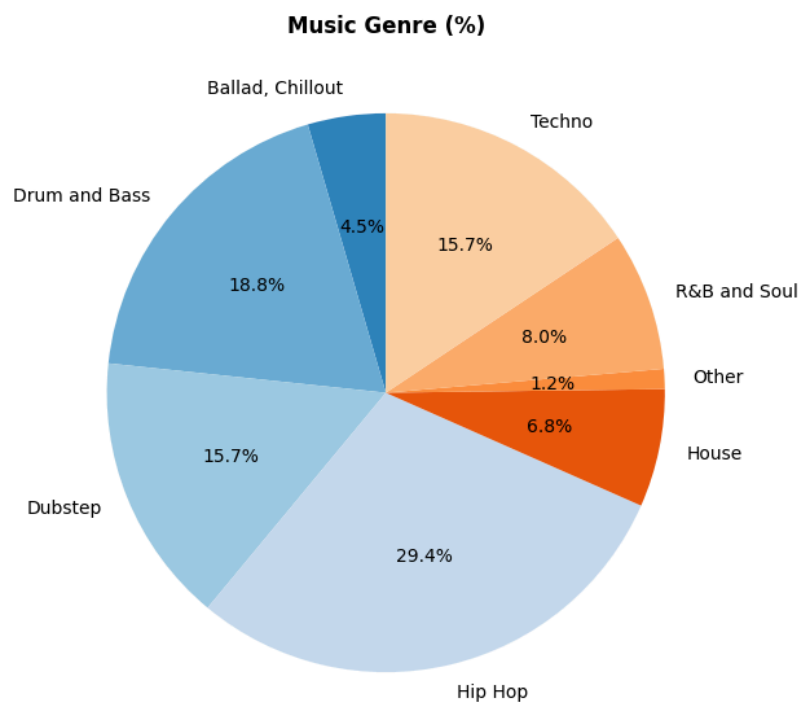
IV. METHODOLOGY

Throughout this analysis, various data visualization tools and libraries, such as Matplotlib, Pandas and Seaborn, have been employed. The primary approach was to
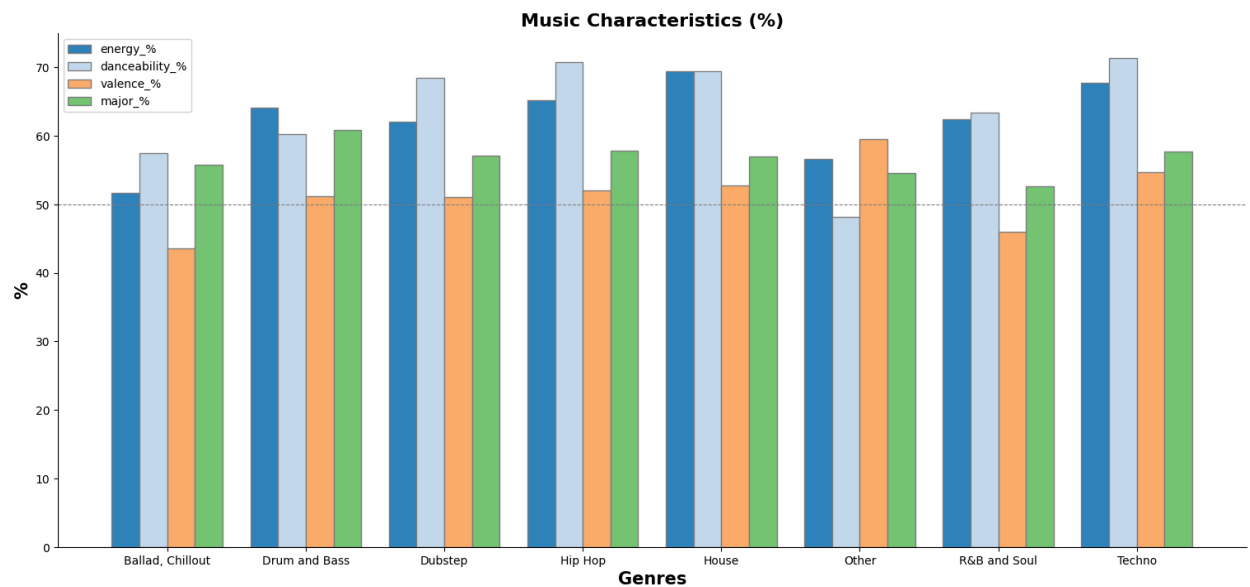
segregate the analysis into three distinct areas: Music Characteristics, Platform Comparison, and Artist Impact. Each area utilized specific visualization types to best represent and explore the underlying data. Additionally, a new data feature, genre, was derived from the bpm and subsequently integrated into the dataframe. This enriched dataset facilitated more comprehensive chart generation and insights. For a more holistic understanding, data features such as track_name, artist(s)_name, artist_count, bpm, in_spotify_playlists, streams, in_apple_playlists, in_deezer_playlists, were all taken into account. This examination was conducted on more than 950 samples.

V.   FINDINGS

1. Recent trend: Music Characteristics and Taste of Listeners

Music Genre (%)

From the provided pie chart titled "Music Genre (%)," it is evident that Hip Hop leads the genre popularity at 29.4%, closely followed by Drum and Bass at 18.8% and Dubstep at 15.7%. Such dominance suggests that energetic and rhythmic genres are in vogue, resonating most with today's listeners.
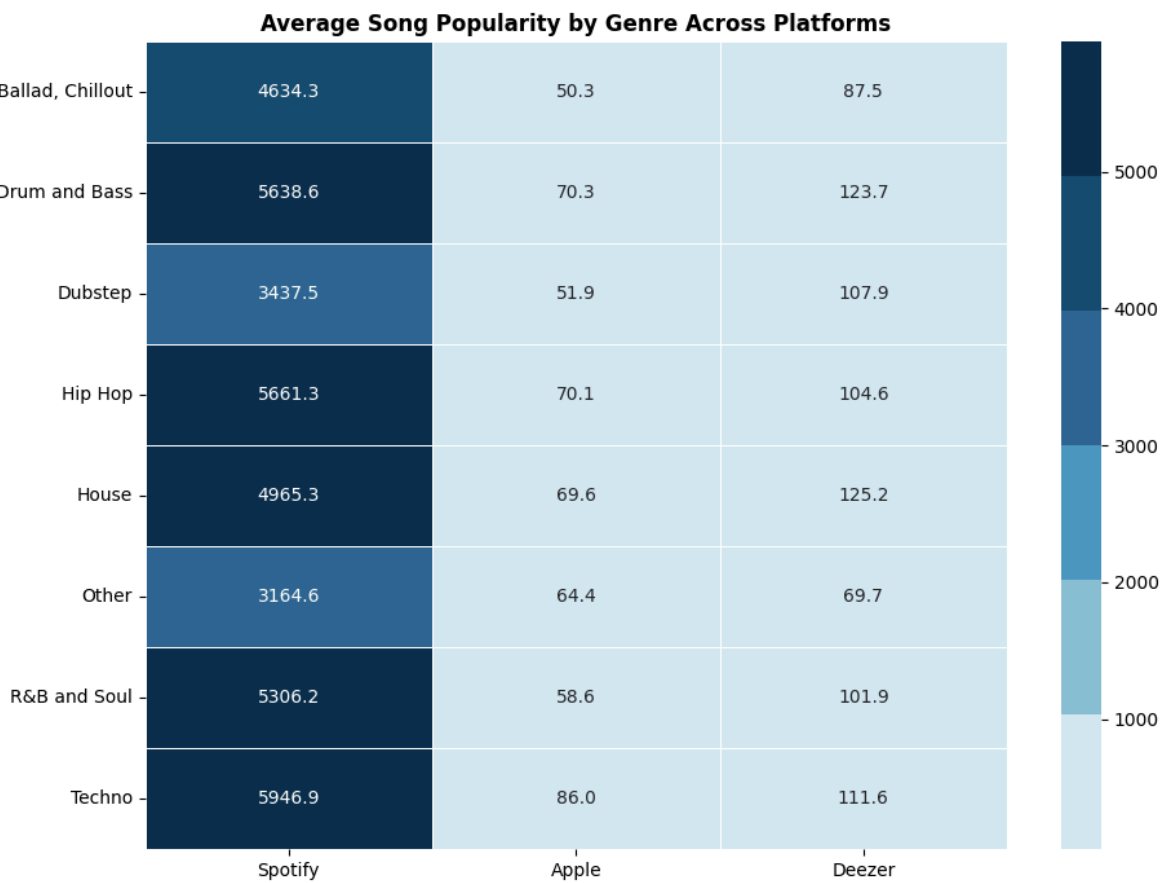

Music Characteristics (%)

The bar chart underscores a prevailing trend in the music world: listeners today gravitate towards high-energy, danceable tunes that often carry positive vibes, as seen by the dominance of tracks in major keys and with higher valence. The set benchmark of 50% serves as a testament to this trend, as most genres consistently surpass this midpoint in these characteristics.

More specifically, most genres, especially Dubstep, Drum and Bass, and Techno, exhibit high energy levels, signifying a preference for vibrant tunes. Danceability seen in House, Techno, and Hip Hop suggests that the music of today is crafted for movement, evoking images of packed dance floors. On the emotional spectrum, genres like R&B and Soul or Ballad and Chillout offer a ray of positivity, reflecting listeners' affinity for

mood-lifting tracks. Furthermore, genres lean towards songs in a major key, especially in House and Techno, unveils an appetite for brighter, more optimistic sounds.

2. Platform comparison

Average Song Popularity by Genre Across Platforms

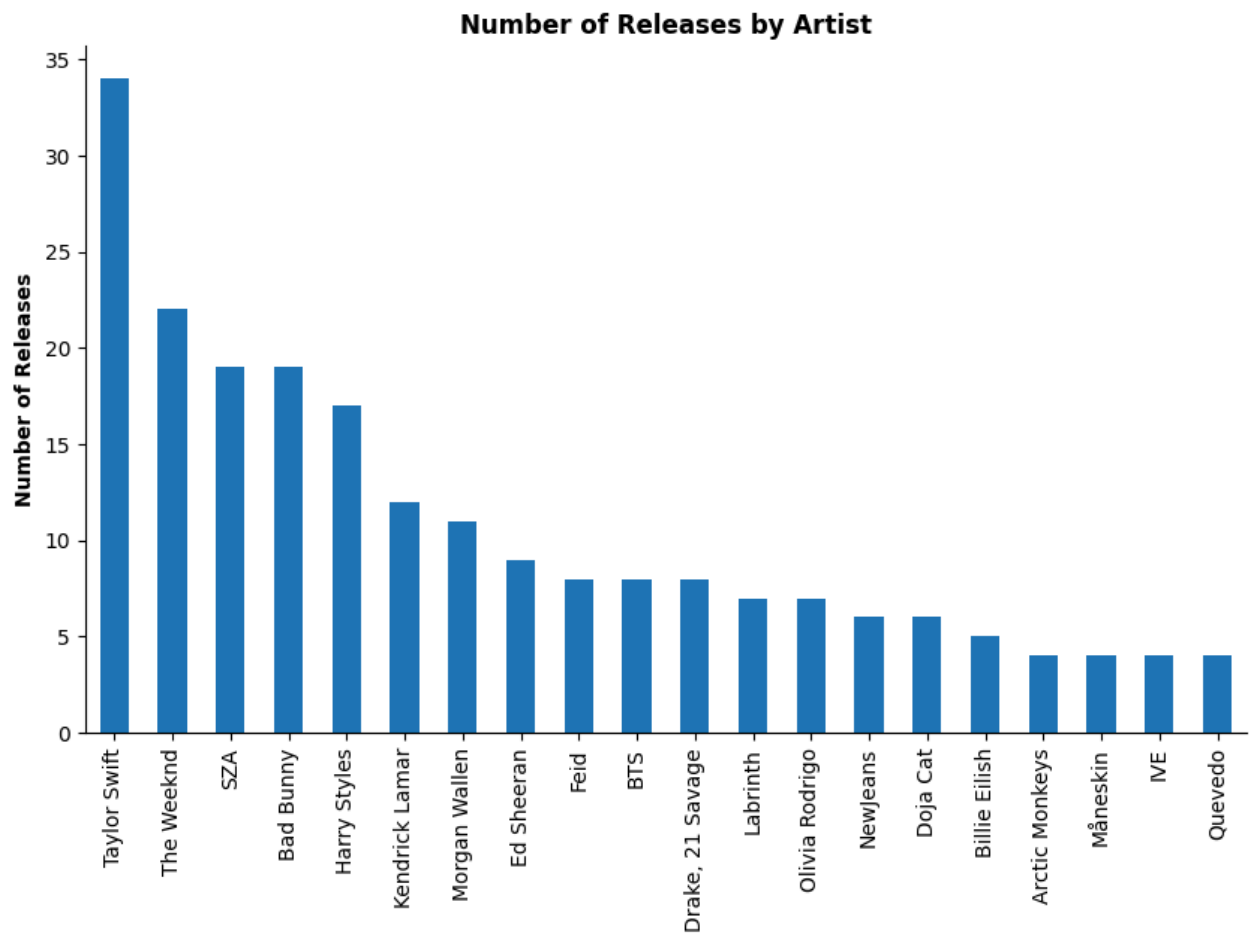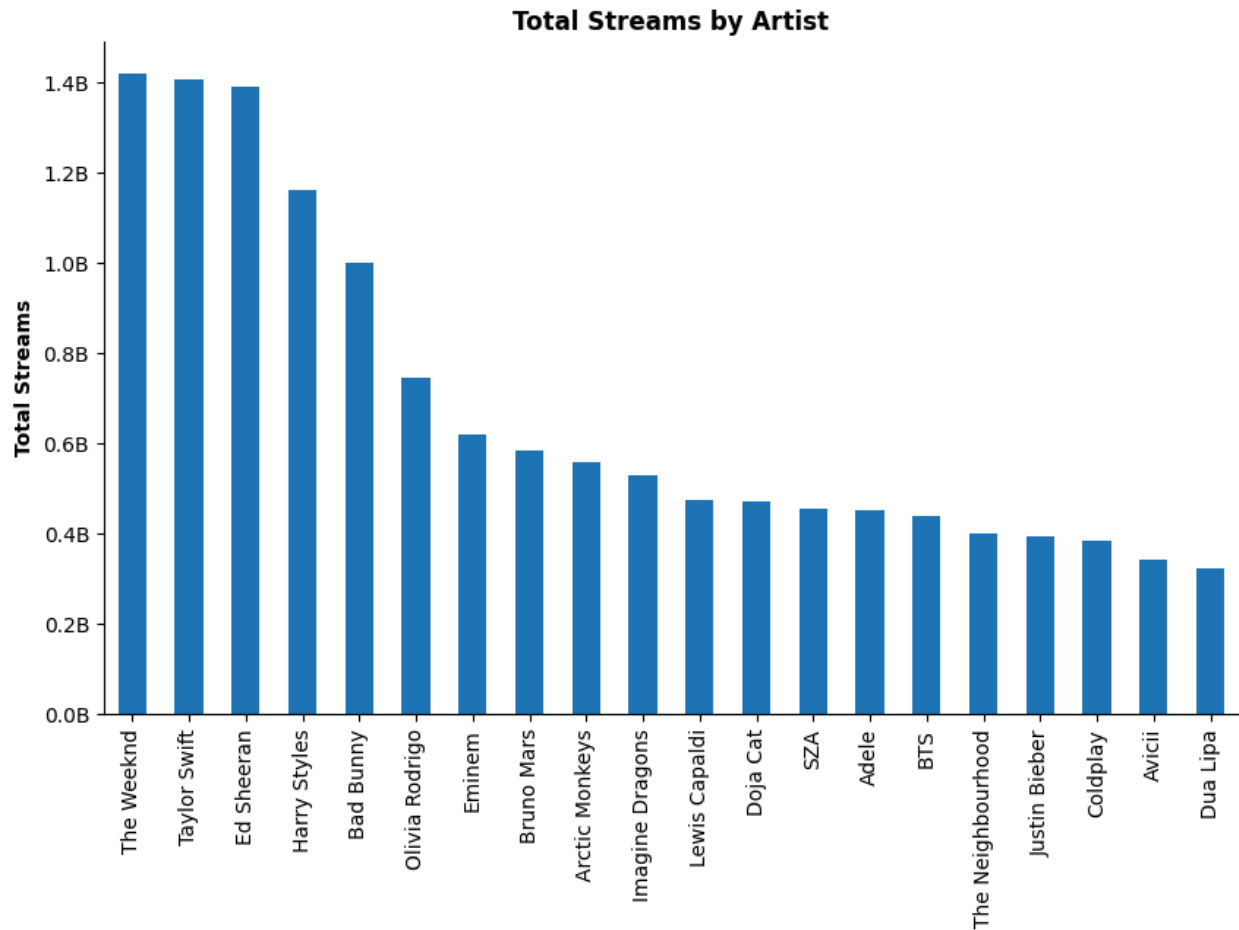|	Spotify	Apple	Deezer
Ballad, Chillout	4634.3	50.3	87.5
Drum and Bass	5638.6	70.3	123.7
Dubstep	3437.5	51.9	107.9
Hip Hop	5661.3	70.1	104.6
House	4965.3	69.6	125.2
Other	3164.6	64.4	69.7
R&B and Soul	5306.2	58.6	101.9
Techno	5946.9	86.0	111.6

The chart illustrates the average popularity of songs by genre across Spotify, Apple, and Deezer. Significantly, Spotify consistently outshines the other platforms in terms of song popularity across all genres, suggesting a strong preference among listeners. Drum and Bass, Hip Hop, R&B and Soul, and Techno are particularly

prominent on Spotify. This data underscores Spotify's dominant position in the music streaming landscape.

3. Artist impact

Based on the Most Streamed Spotify Songs 2023 dataset, patterns related to the number of tracks released by artists and their total streams are observed. Analyzing the contributions of artists to the global music industry provides significant insights into their influence and the dynamics of the music landscape.

Number of Releases by Artist

Total Streams by Artist

From the charts, Taylor Swift and The Weeknd clearly emerge as dominant figures in the music industry. Taylor Swift, with an impressive number of releases, aligns perfectly with her soaring total streams, showcasing her consistent impact and adaptability. The Weeknd, on the other hand, though having fewer releases compared to Taylor, amasses a substantial number of streams, emphasizing his tracks' immense popularity and resonance with listeners globally.

It's also noteworthy to see the progression and dynamics among these top artists. While some have maintained a steadfast presence, such as Ed Sheeran, Bad

Bunny, Harry Styles, etc., others have witnessed fluctuations in their positions, signifying the ever-evolving nature of the music industry.

VI. DISCUSSION

The findings highlight a strong preference for high-energy, danceable tunes in major keys among listeners. Spotify's dominance over Apple and Deezer suggests superior user engagement or content offerings. Artists like Taylor Swift and The Weeknd exemplify the blend of quality and adaptability that resonates with audiences, though the music industry's changeable nature is evident in fluctuating artist rankings.

VII. LIMITATION

The analysis, based solely on 2023 Spotify data, might not capture the global music landscape comprehensively. The lack of regional segmentation and broad genre categorization based on bpm can miss nuanced patterns. Other metrics of artist influence are also overlooked.

VIII. CONCLUSION

The Spotify 2023 dataset offers a glimpse into contemporary music trends, with energetic genres and key artists leading the scene. However, the analysis is bound by its inherent limitations, emphasizing the need for broader perspectives in future studies.