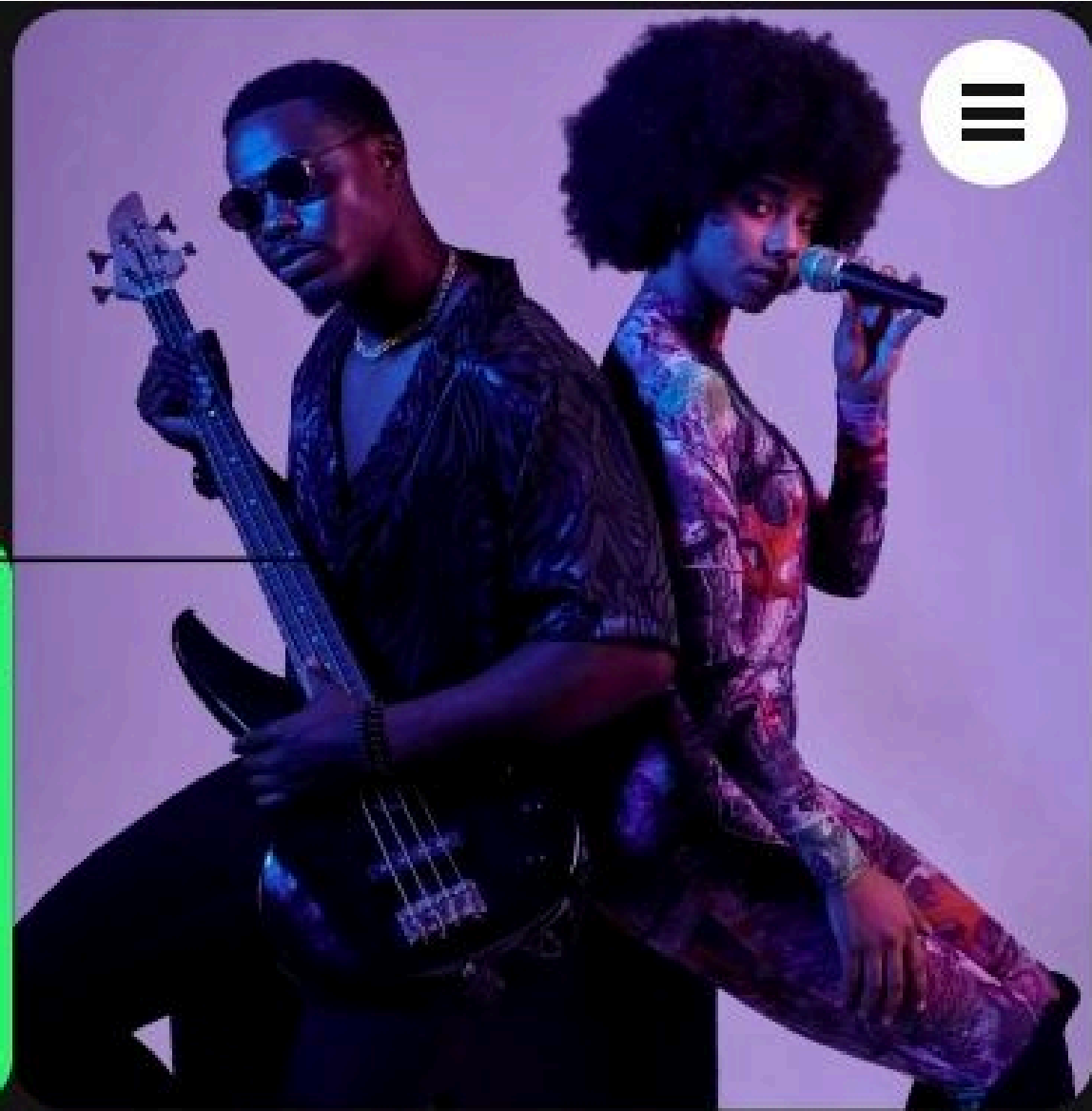


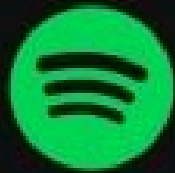


SPOTIFY EXPLORATORY DATA ANALYSIS

A presentation is a method of communicating information, ideas, or proposals to an audience.

NEXT





OBJECTIVES

- 1 . To understand the key audio features that drive track popularity .
- 2 . To visualize how different characteristics (e. g , danceability , energy) correlate with popularity .
- 3 . To uncover time-based trends in music popularity .
- 4 . To cluster and classify music for targeted production strategies .
- 5 . To help mixing engineers and production fine-tune songs for greater success .



MAIN DIMENSIONS OF STUDY



Songs: Explore duration, tempo, danceability, energy.



Artists: Find most frequent & popular artists.



Genres: Compare genre frequency & popularity.



POPULARITY: STUDY DISTRIBUTION AND KEY FACTORS.



TRENDS: OBSERVE CHANGES IN MUSIC FEATURES OVER YEARS.



POPULARITY ANALYSIS

INSIGHTS ON SONG POPULARITY



1

Distribution of track popularity (low vs high).

2

Top artists with highest popularity.

3

Popularity trend across years/releases.

4

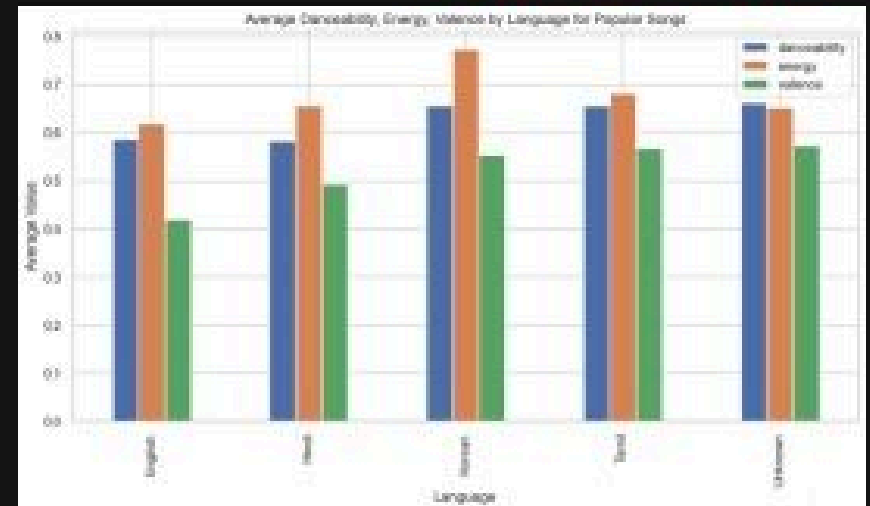
Popularity vs audio features.





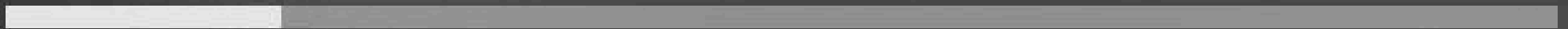
POPULARITY TRENDS OVER TIME

POPULARITY OF TRACKS HAS
FLUCTUATED OVER THE YEARS,
INDICATING SHIFTS IN AUDIENCE
PREFERENCES.



Top Performing Artists

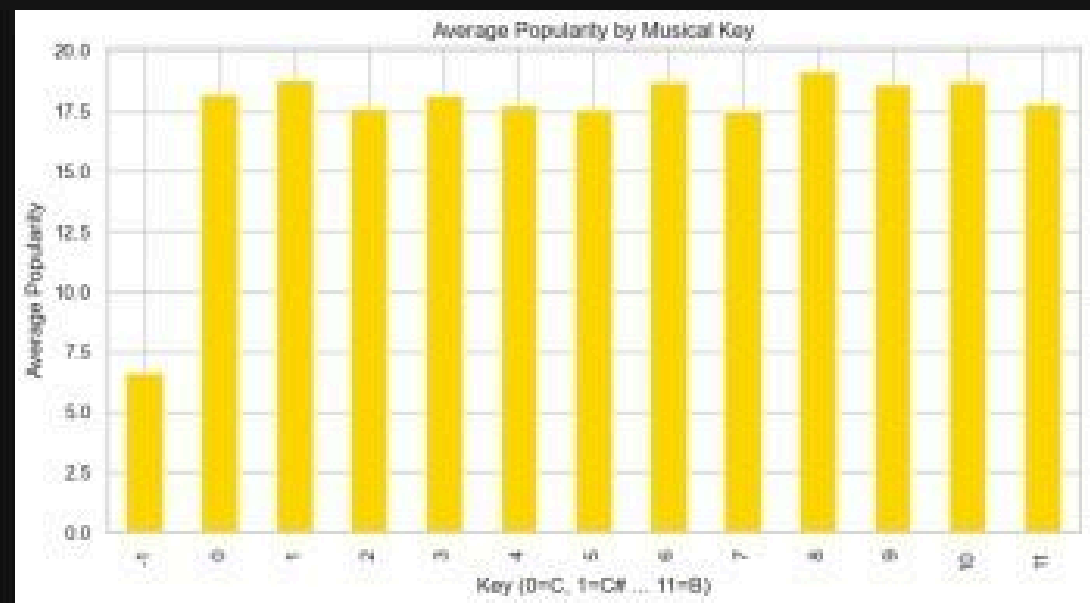
The most popular artists consistently achieve high engagement and dominate streaming charts.



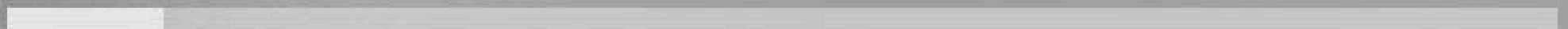
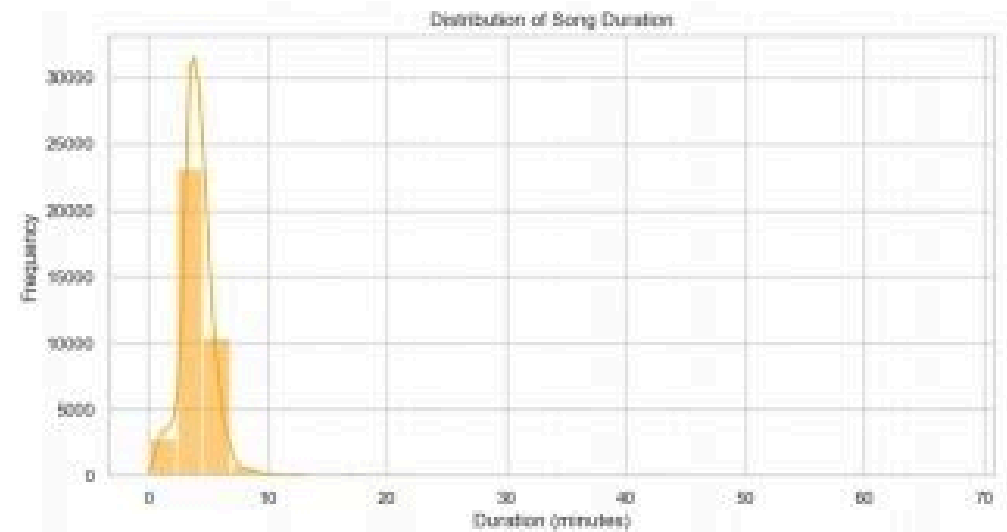
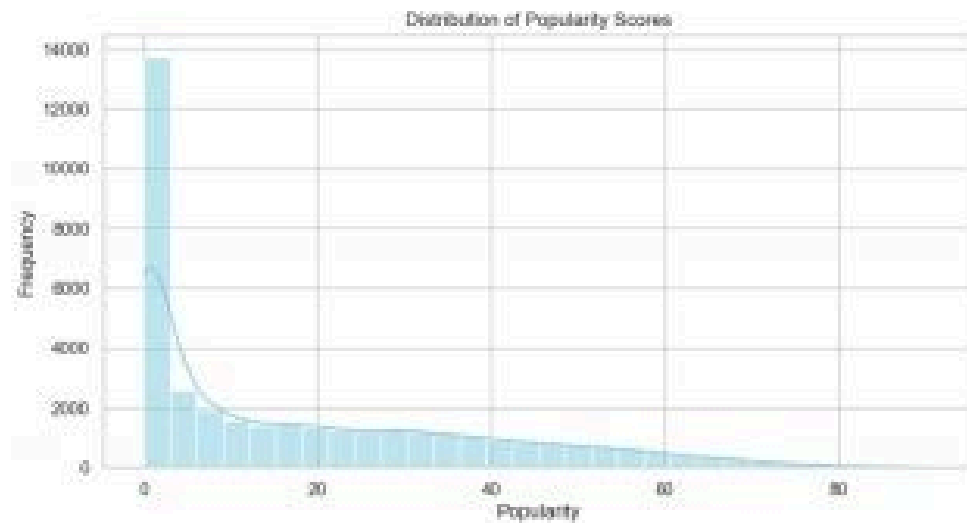
Key Audio Features Influencing Popularity

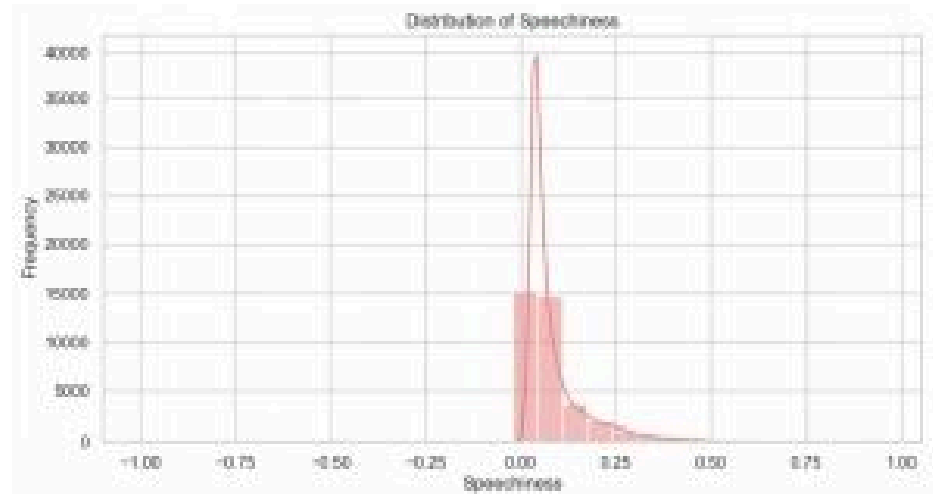
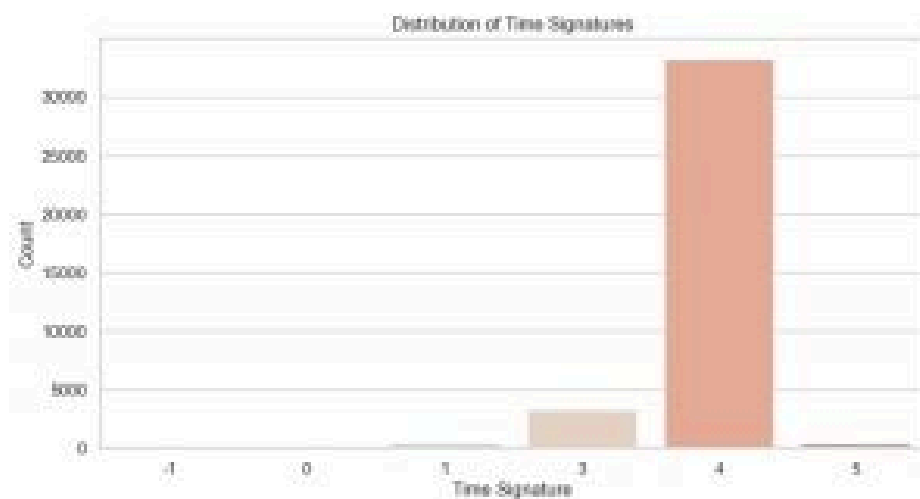
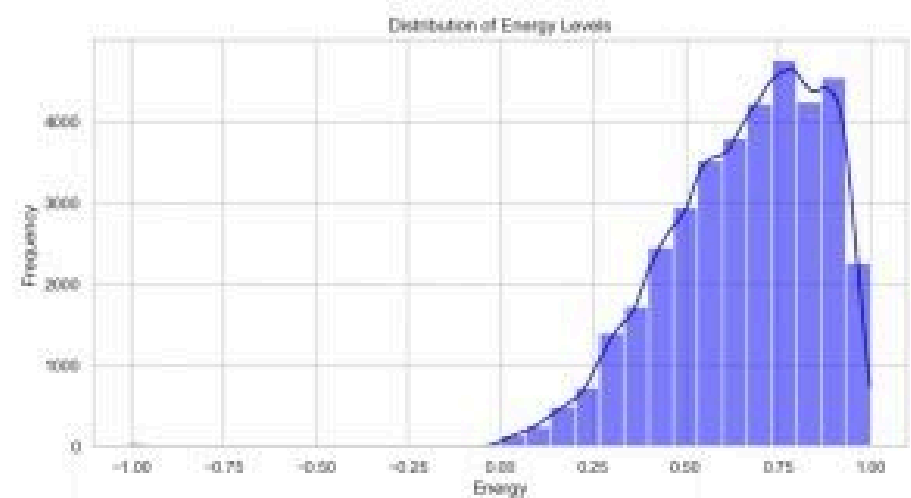
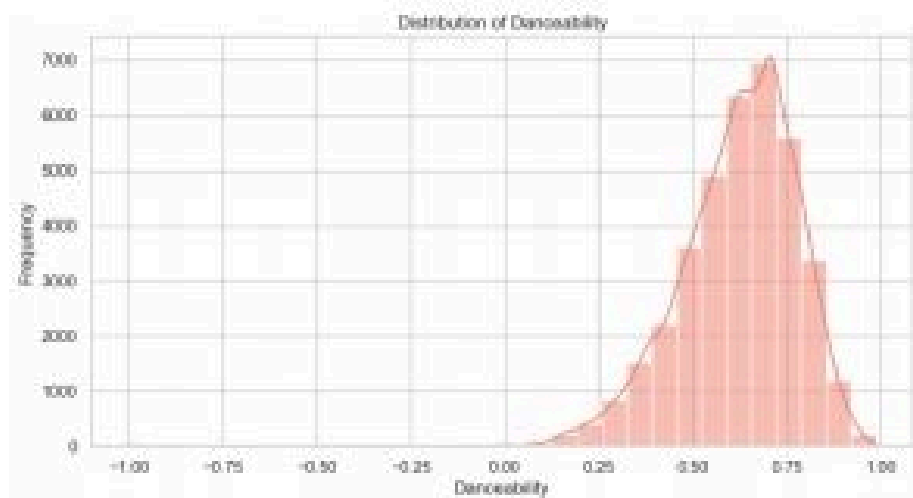
The chart shows the average popularity of songs across different musical keys. Most keys have similar popularity levels, but keys like C#, G, and A show slightly higher averages.

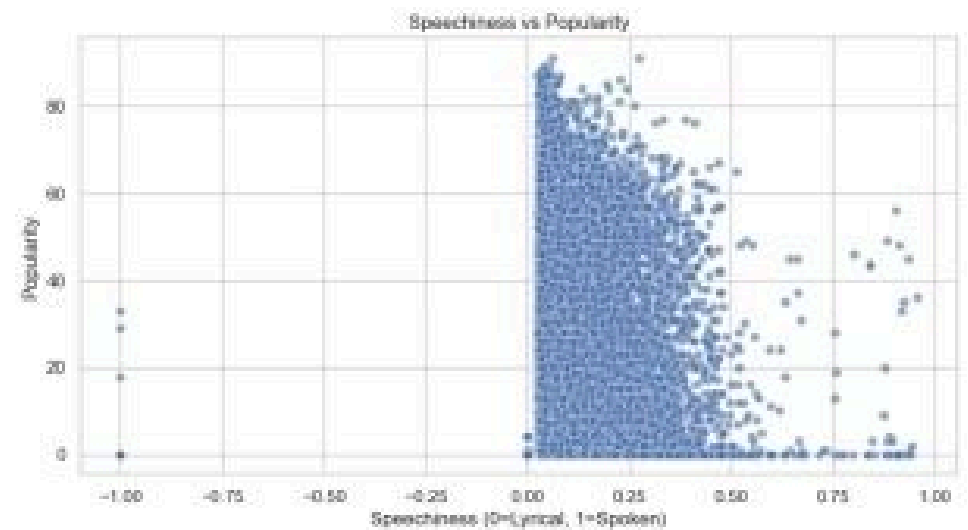
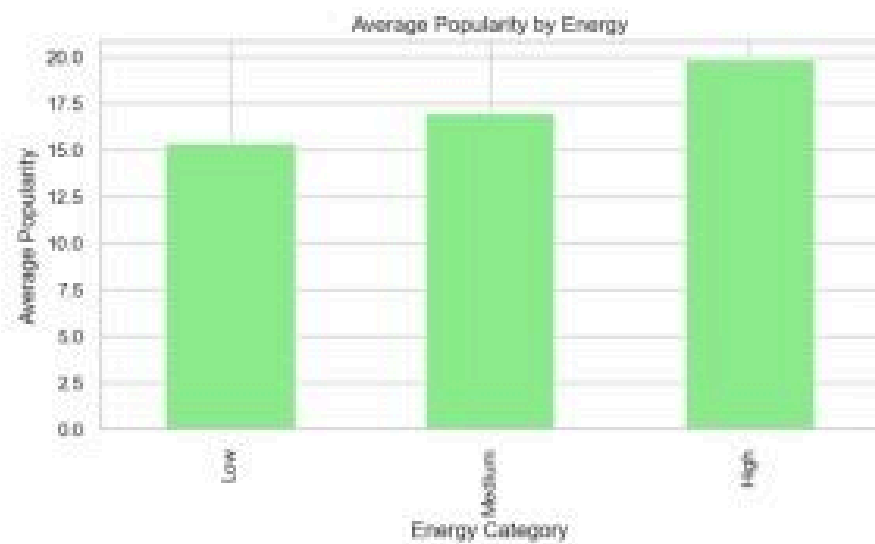
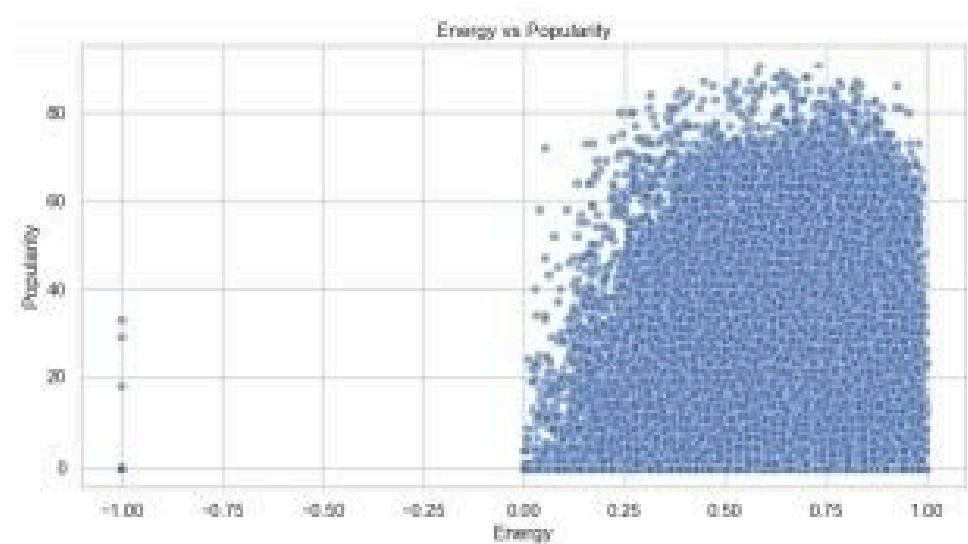
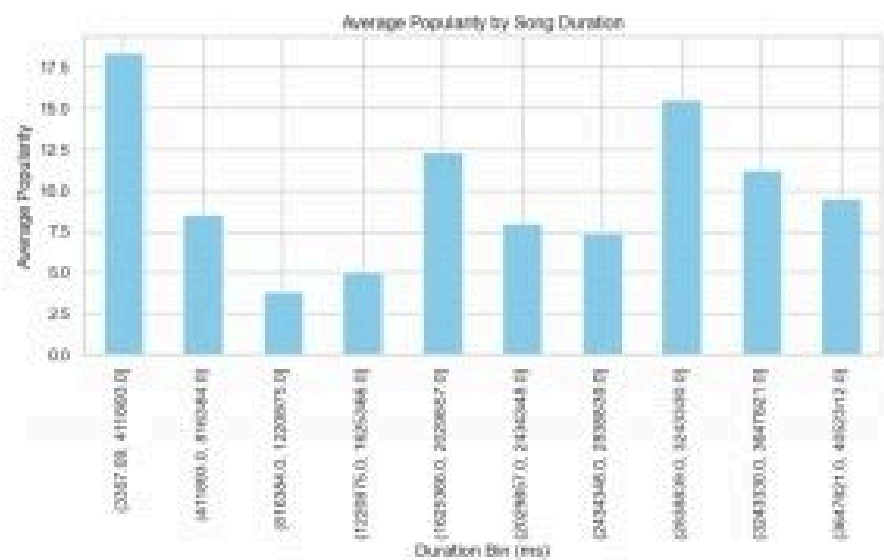
This suggests that while the key alone doesn't determine success, it can influence how appealing a song sounds to listeners. Overall, a combination of melody, rhythm, and key choice contributes to a song's popularity.

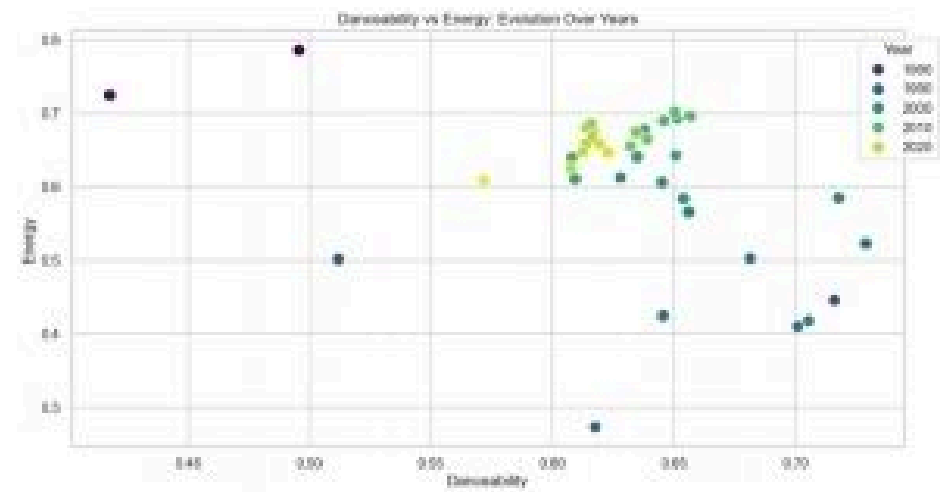
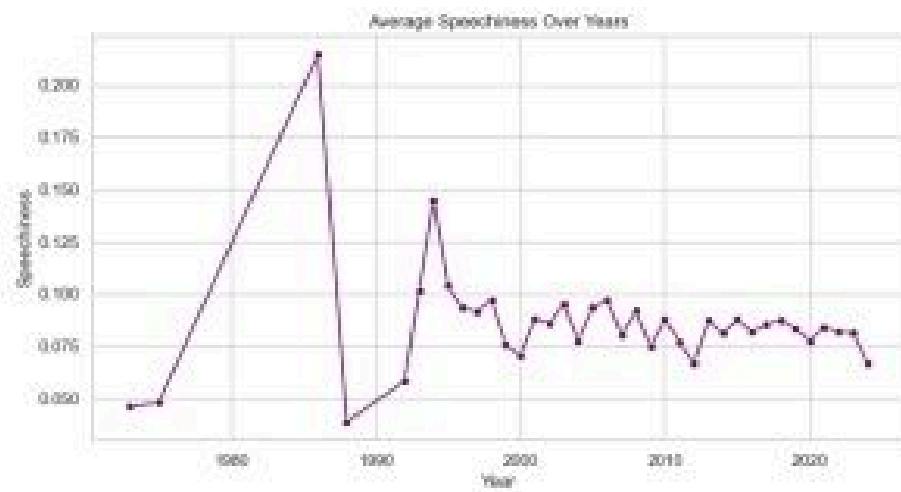
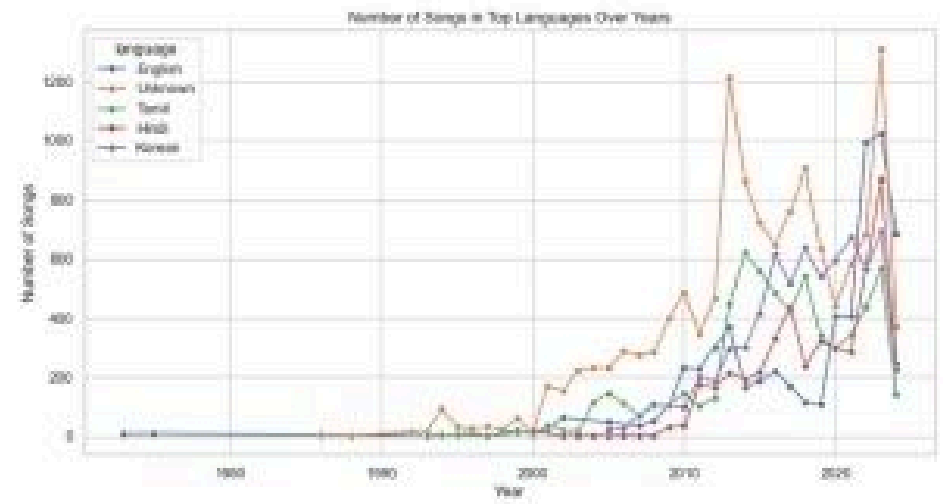
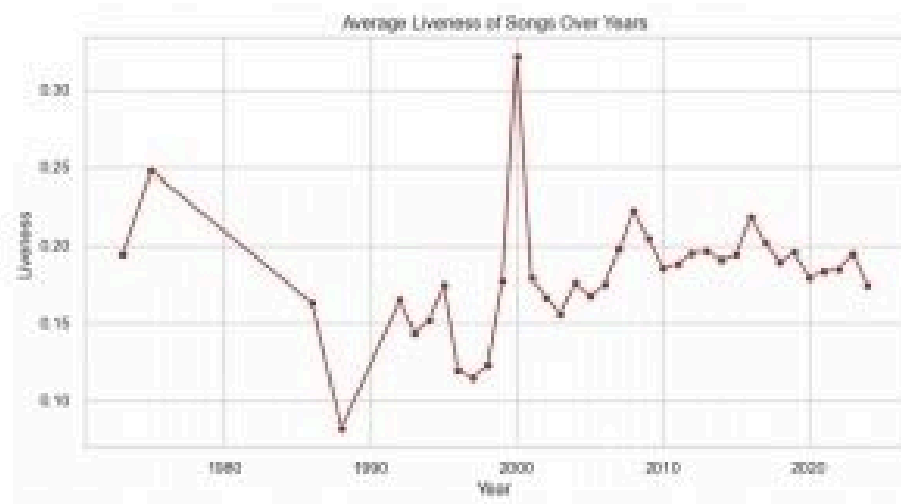


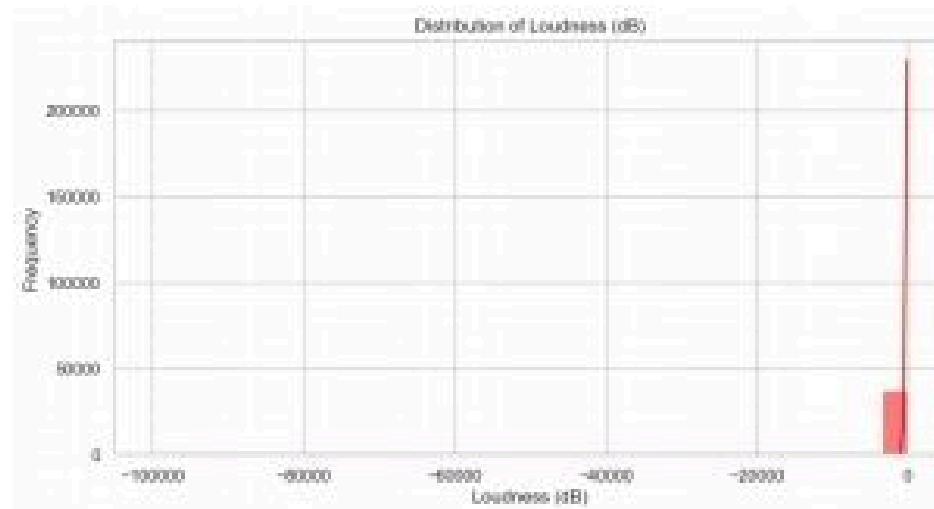
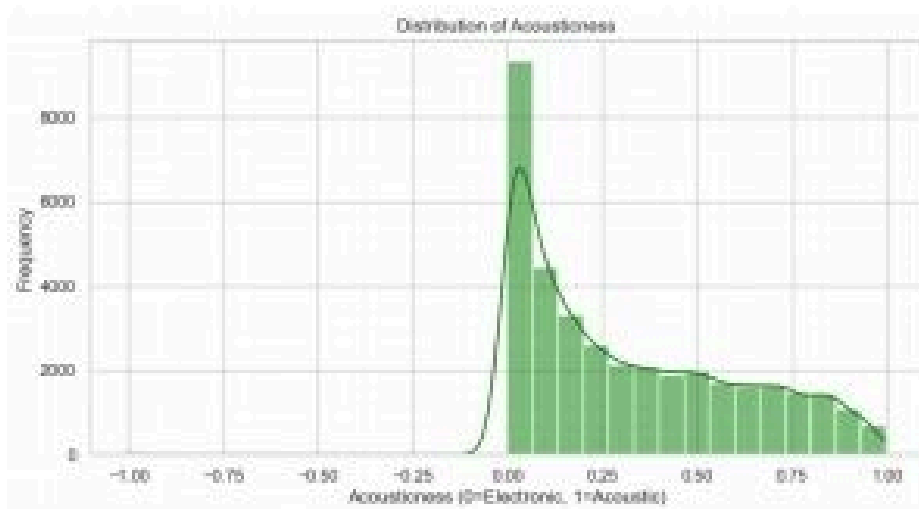
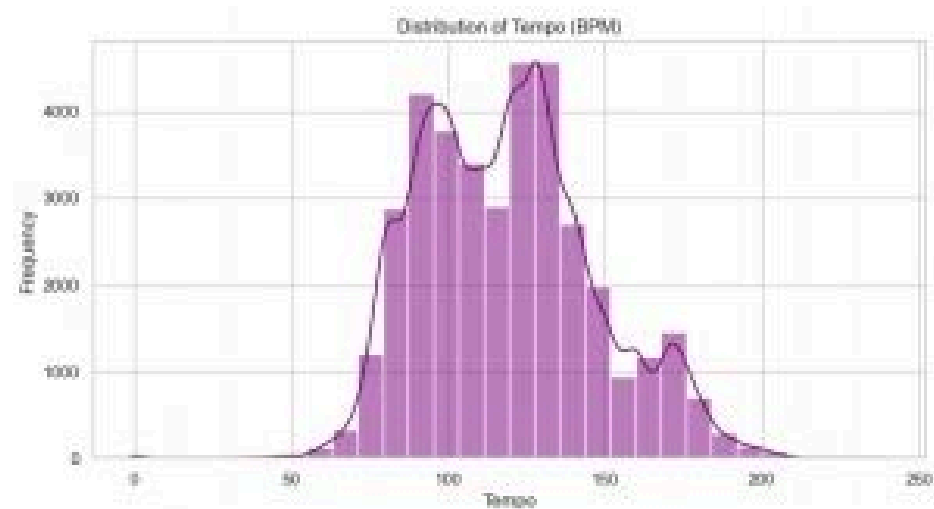
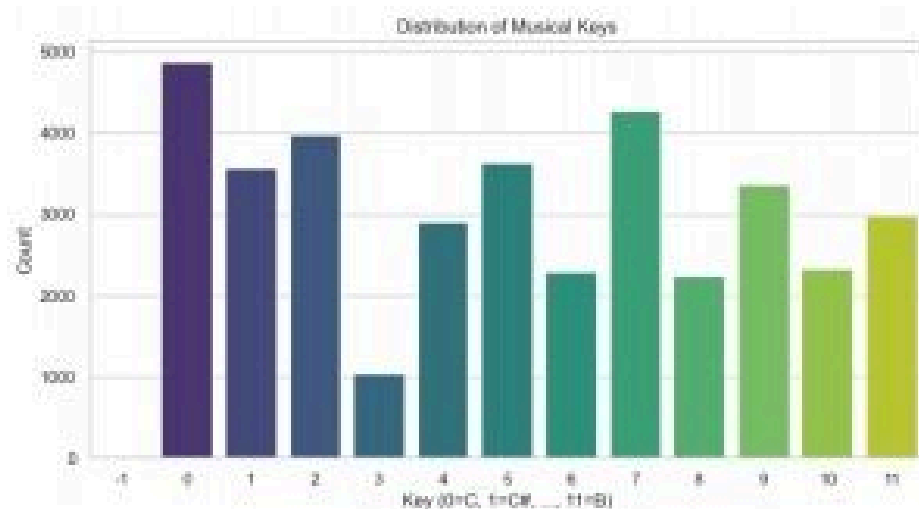
DATA ANALYSIS AND VISUALIZATION

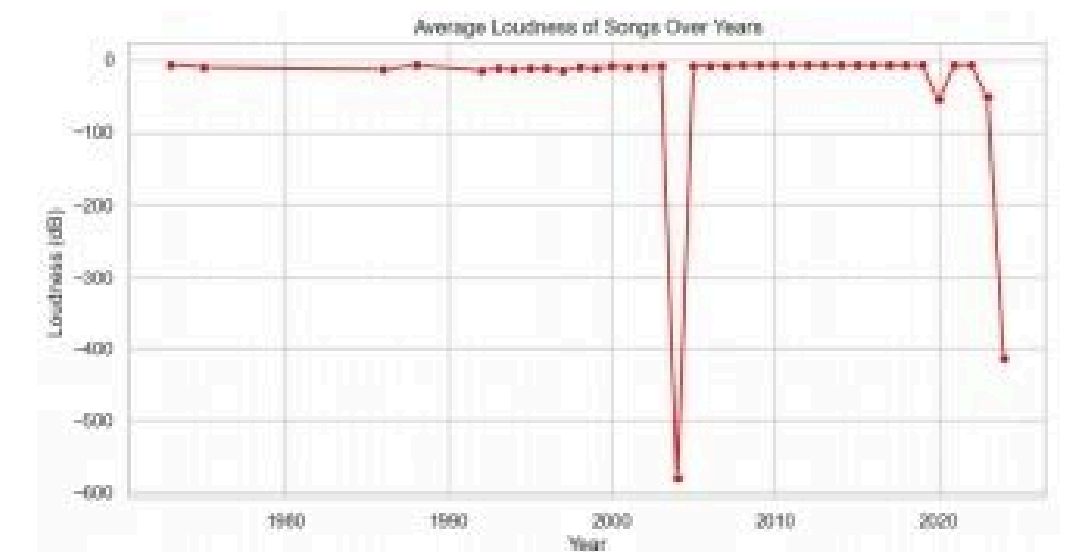
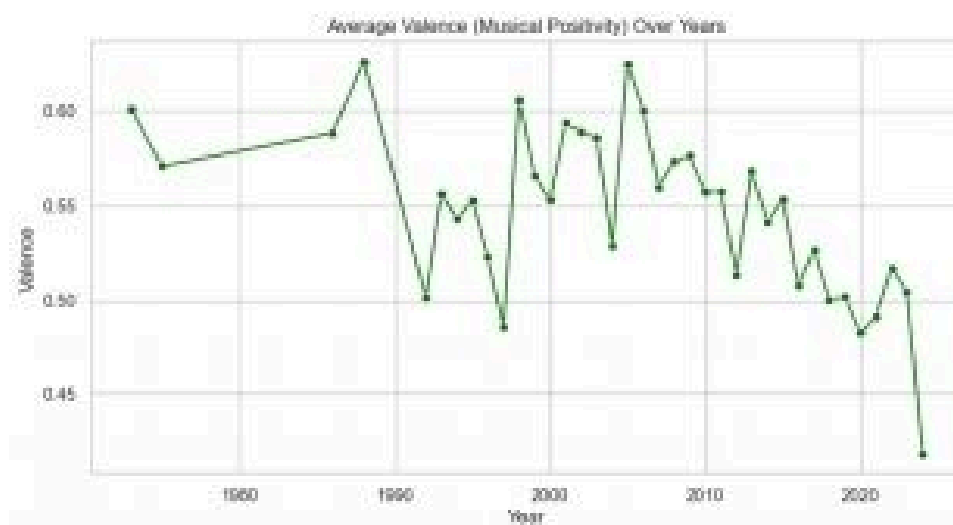
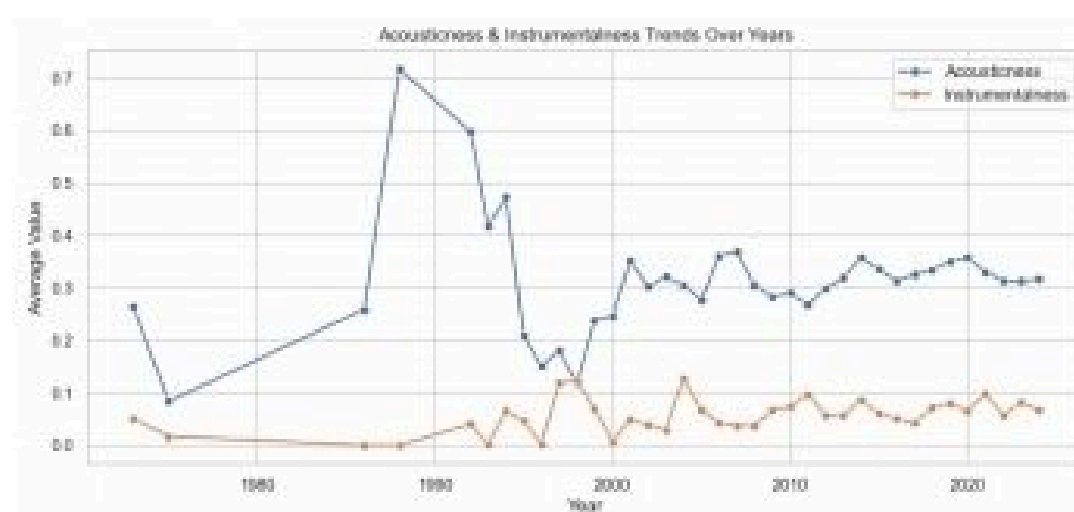
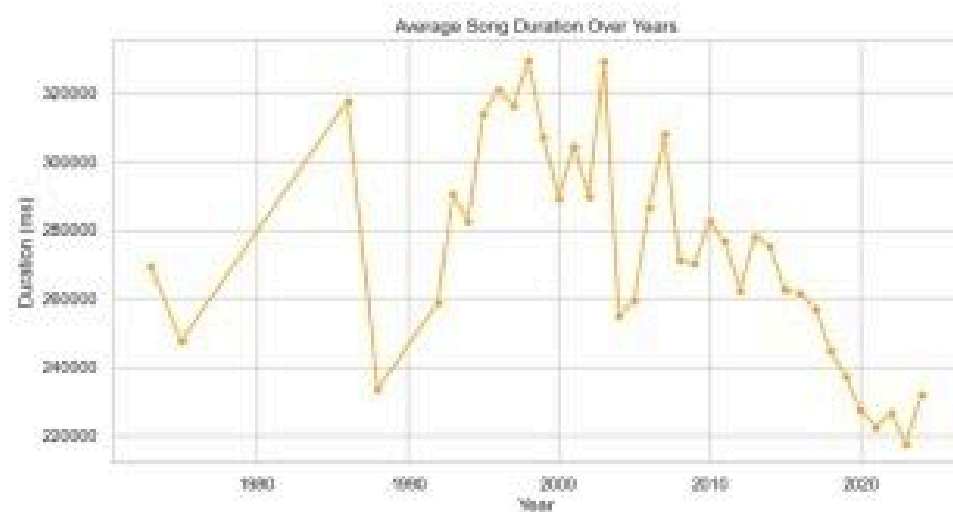


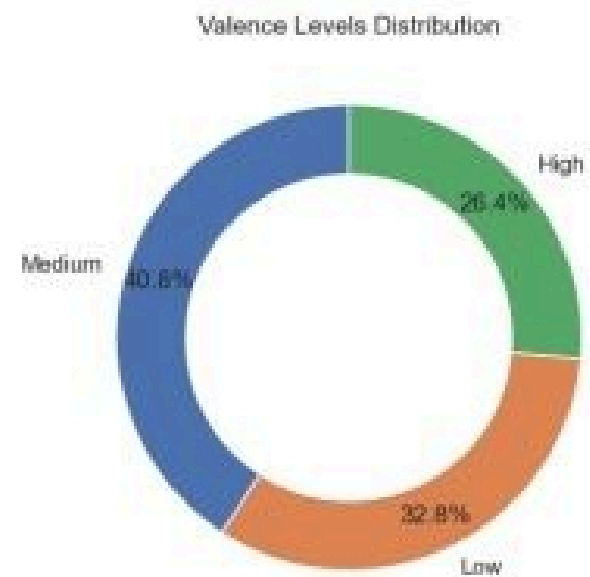
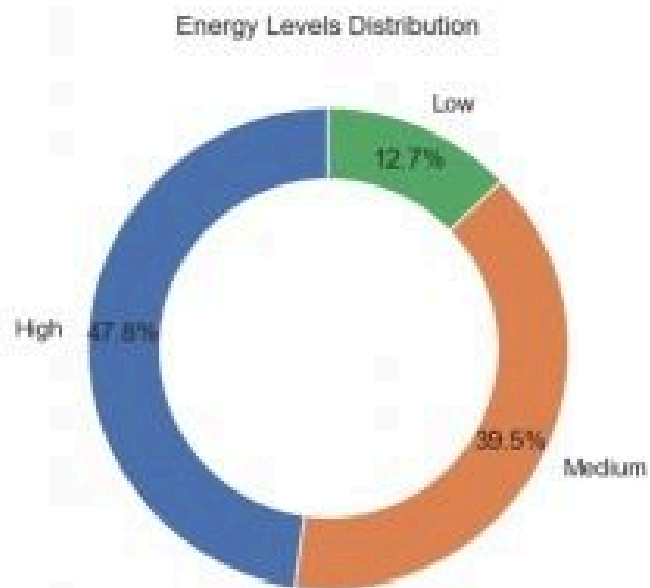
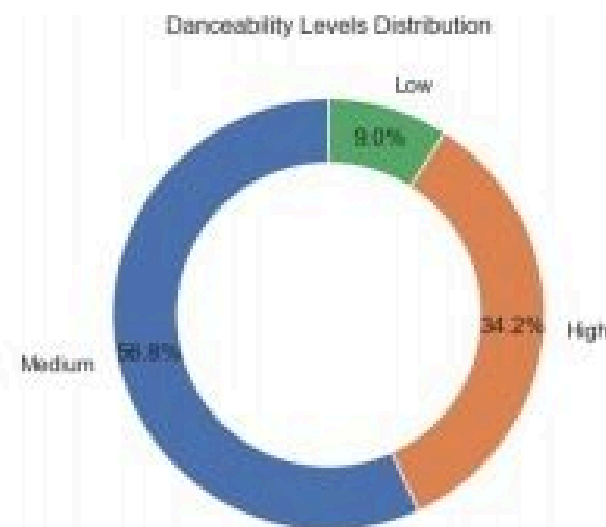
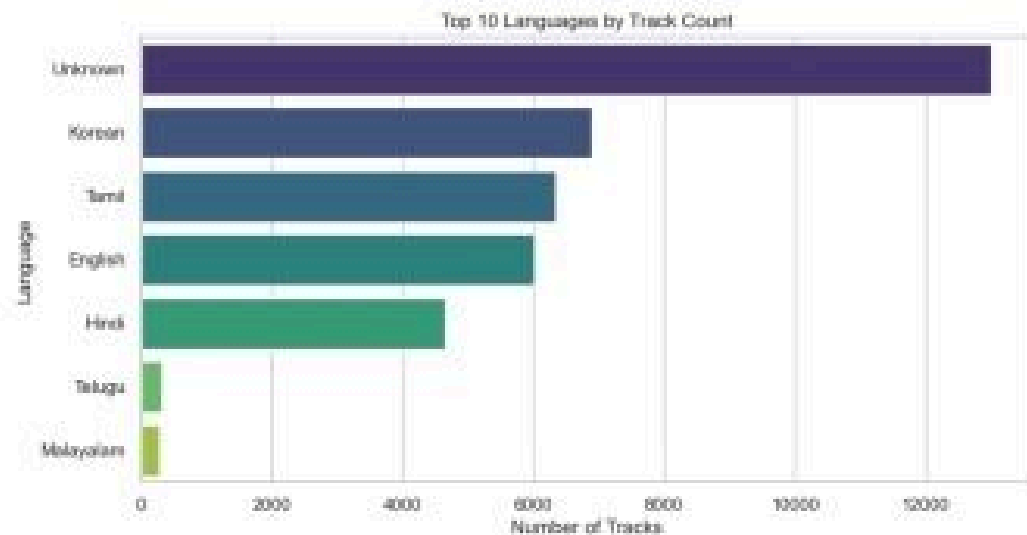




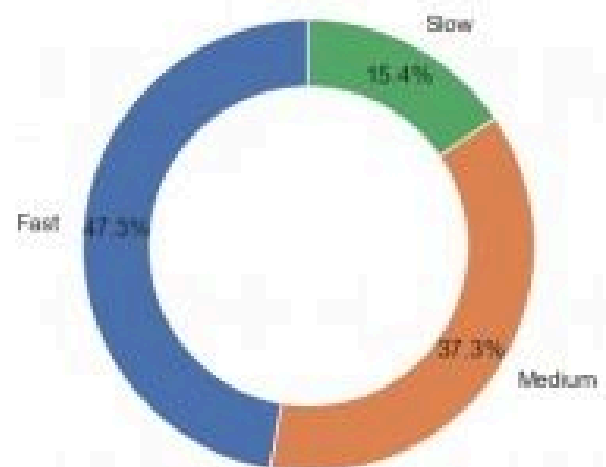




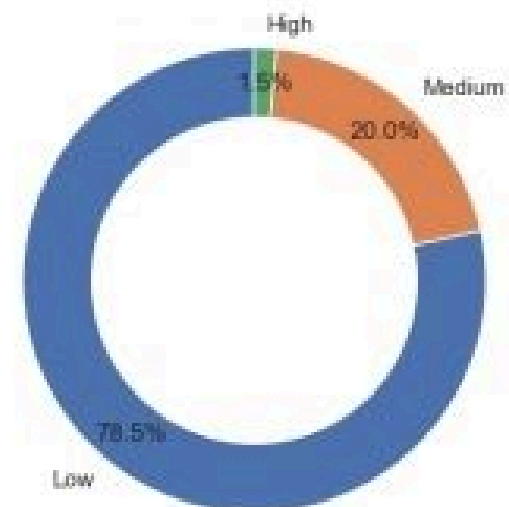




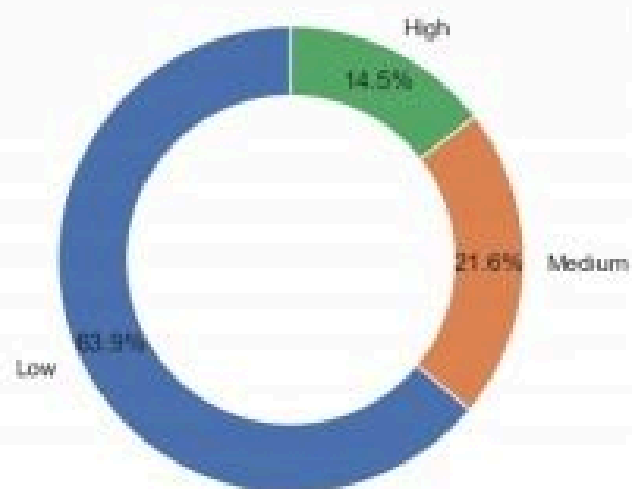
Tempo Levels Distribution



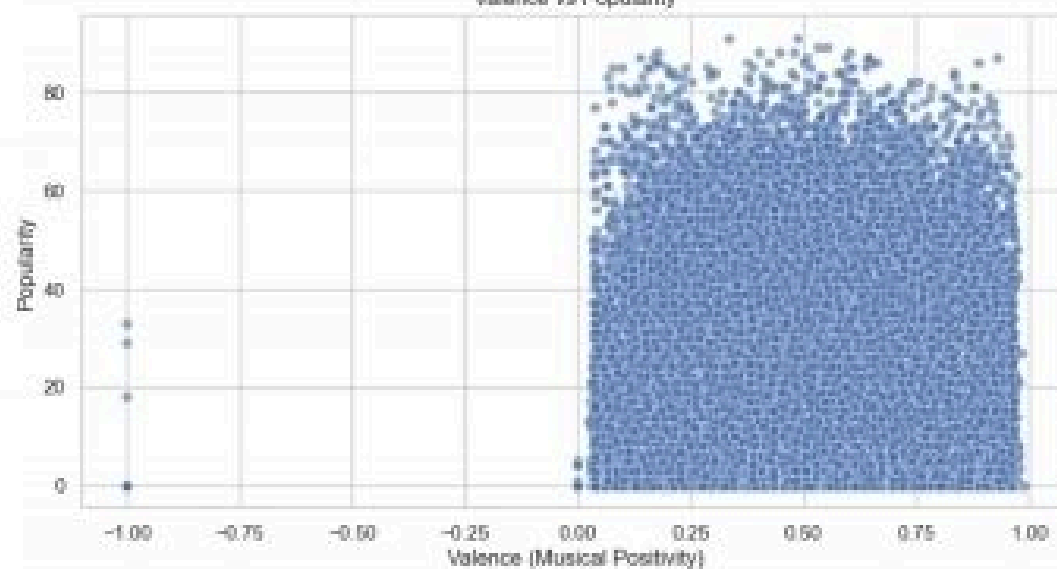
Popularity Levels Distribution



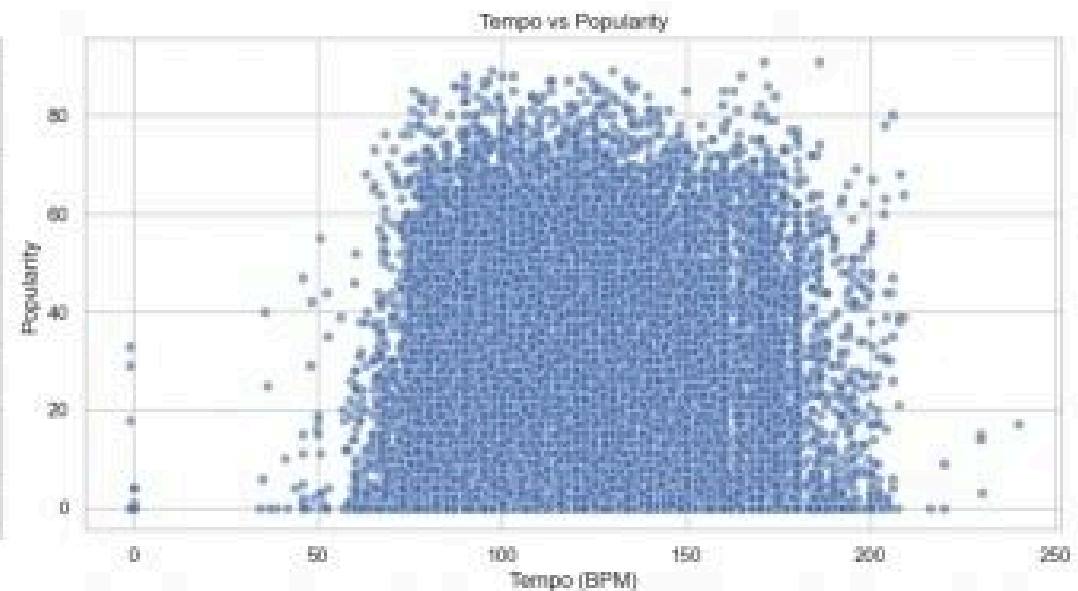
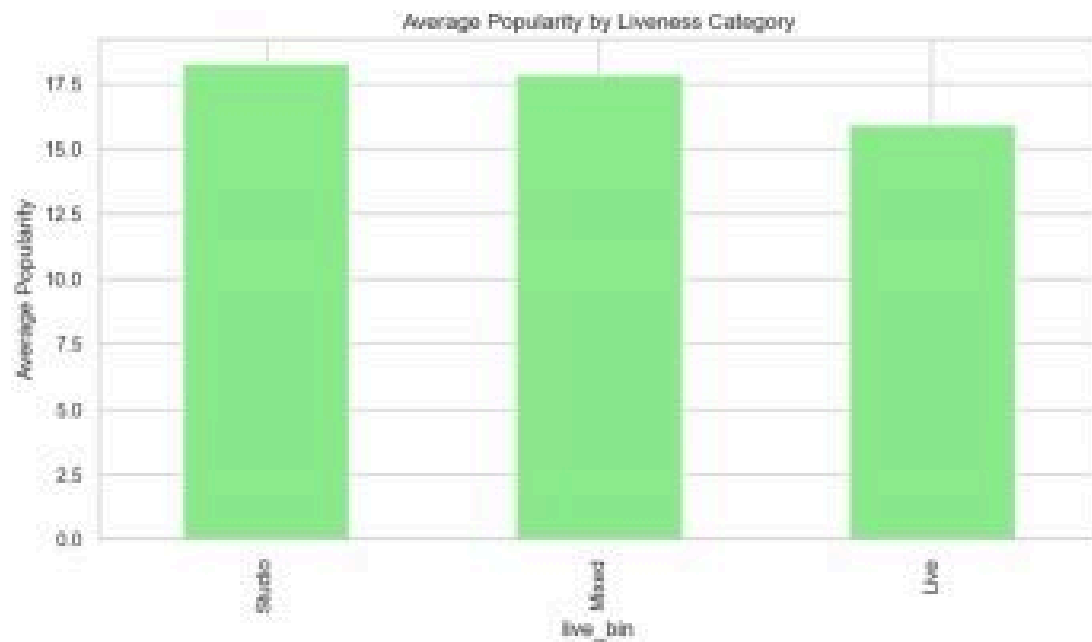
Acousticness Levels Distribution

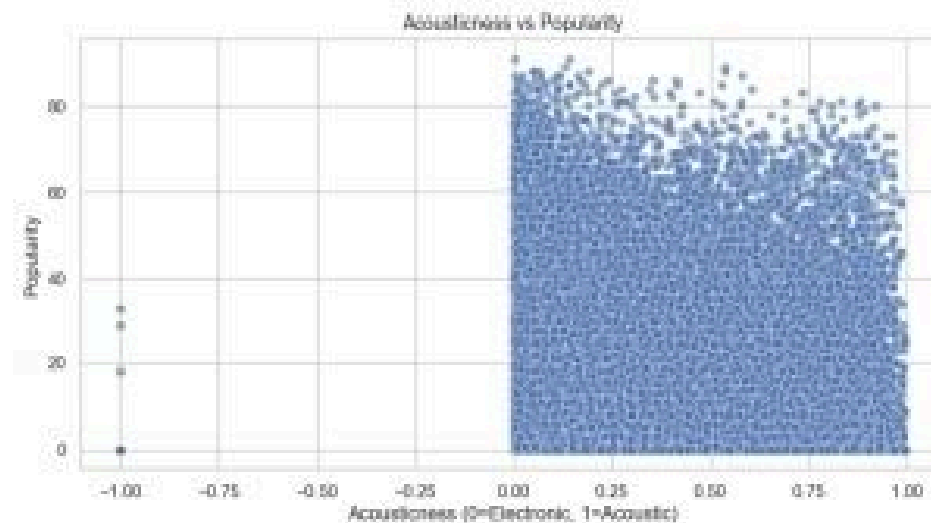
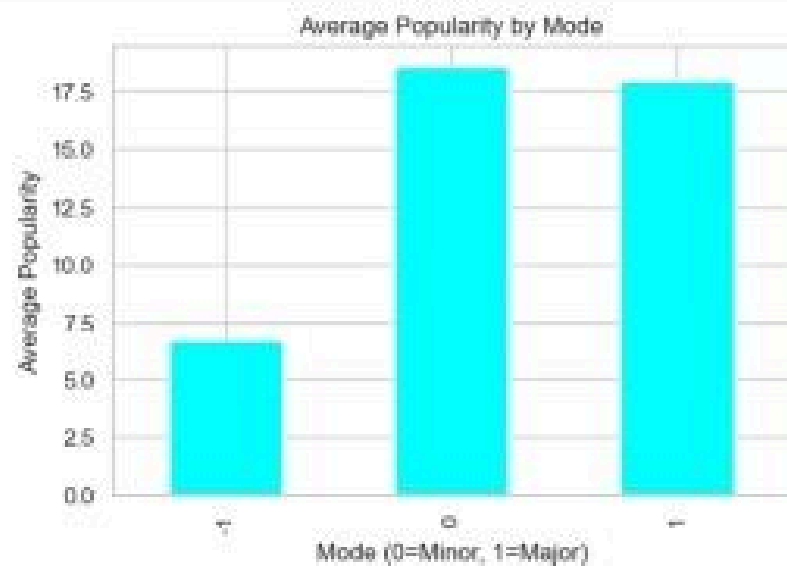
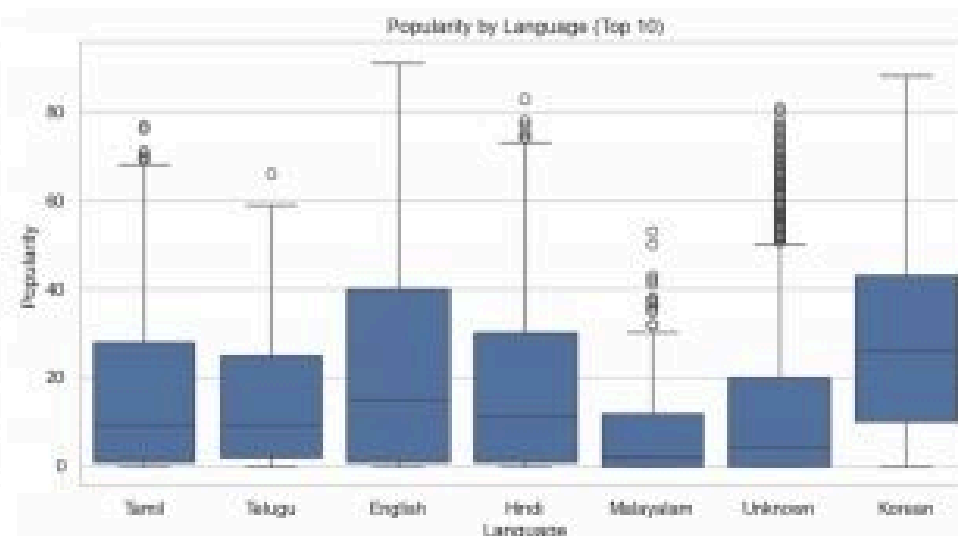
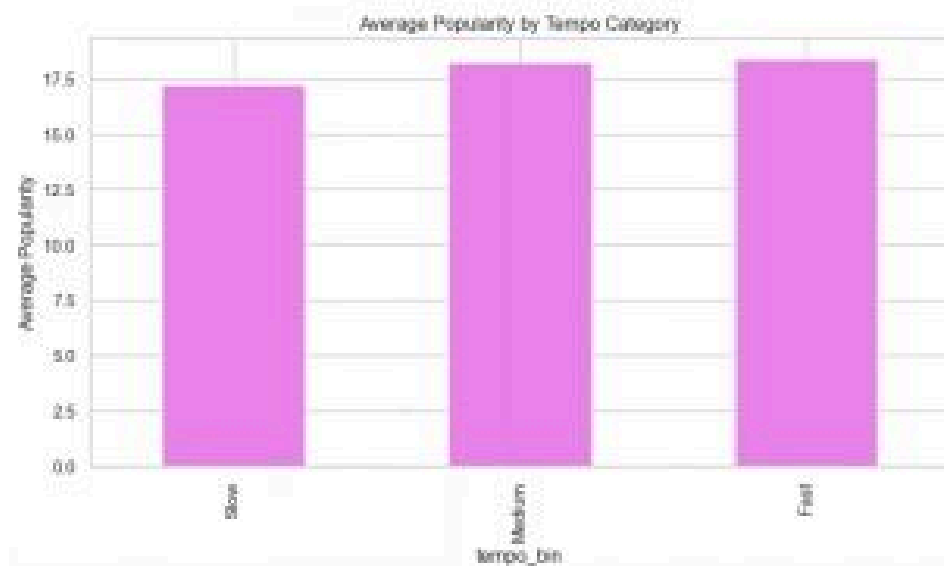


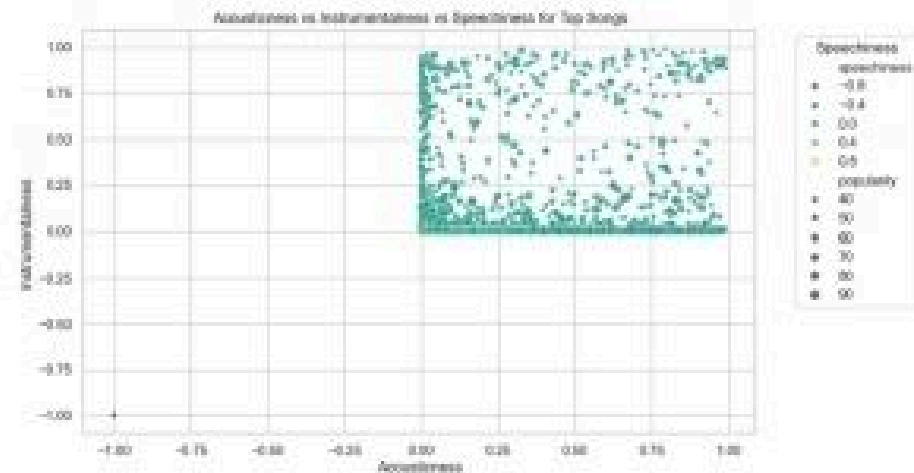
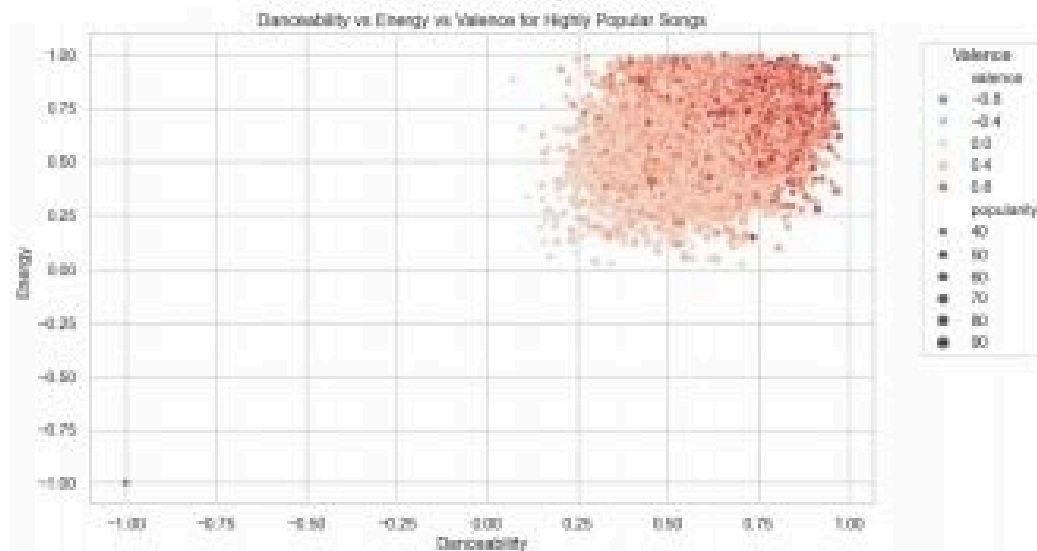
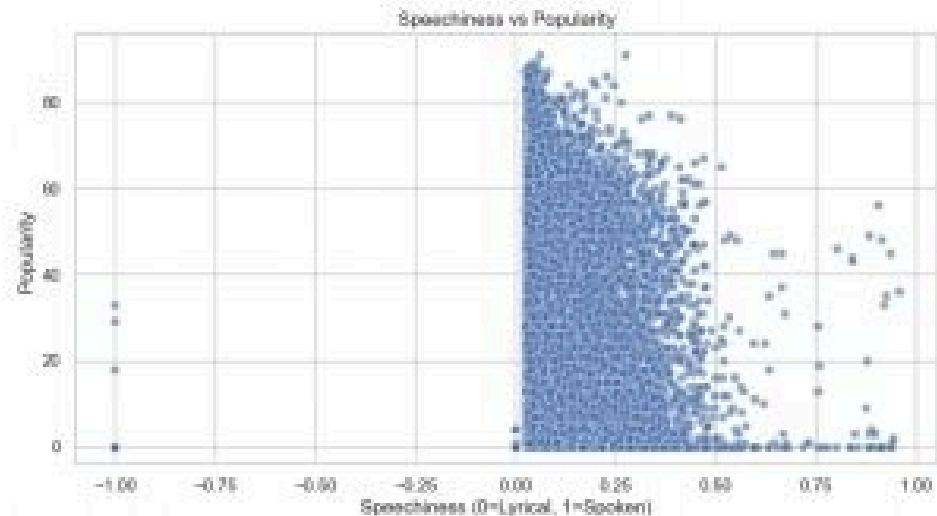
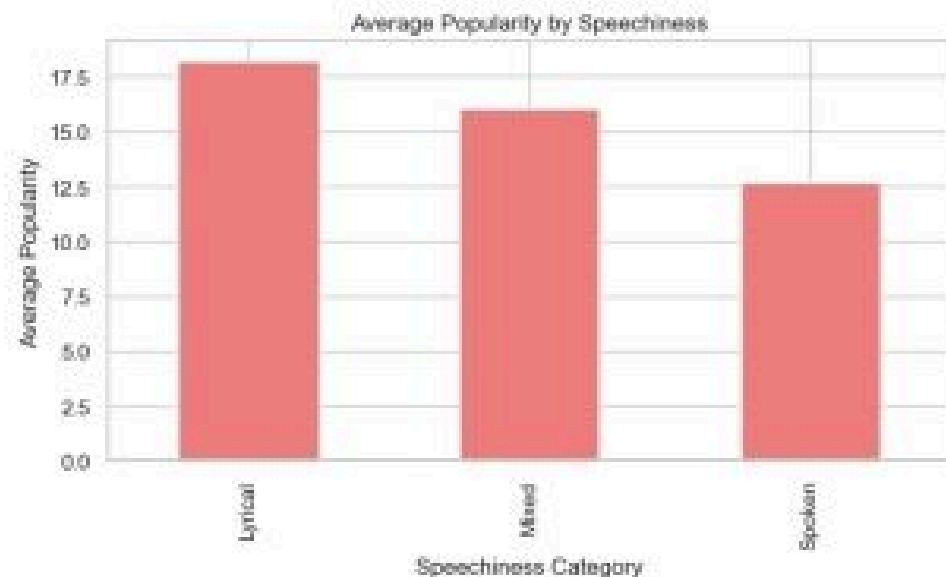
Valence vs Popularity

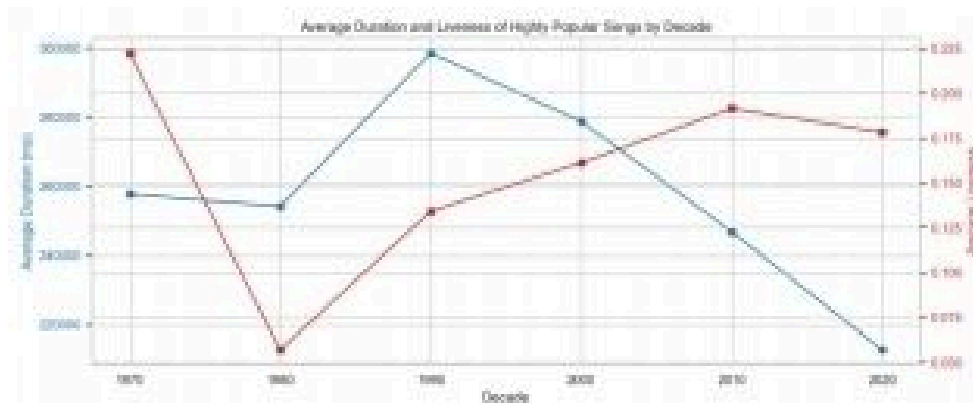
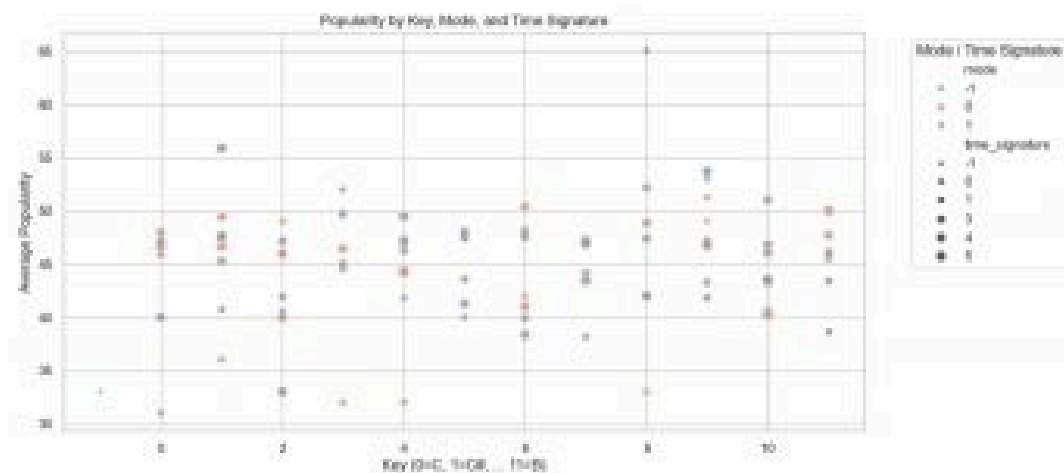
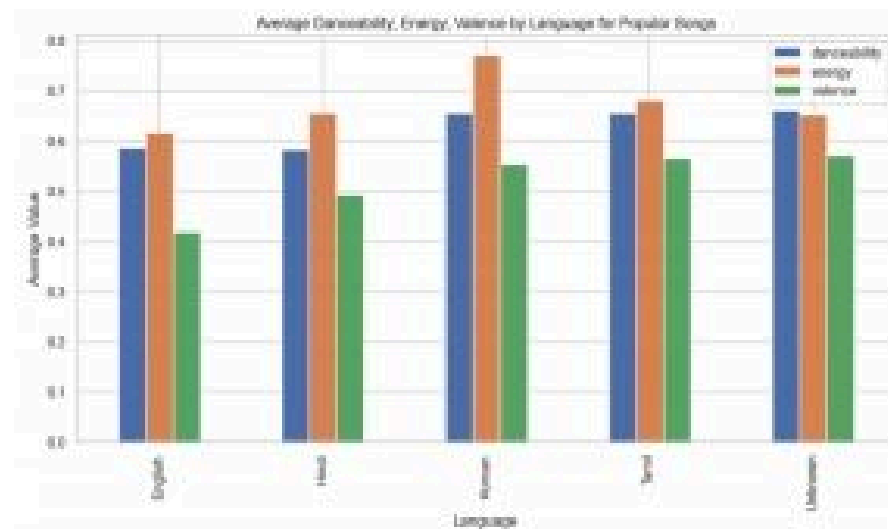
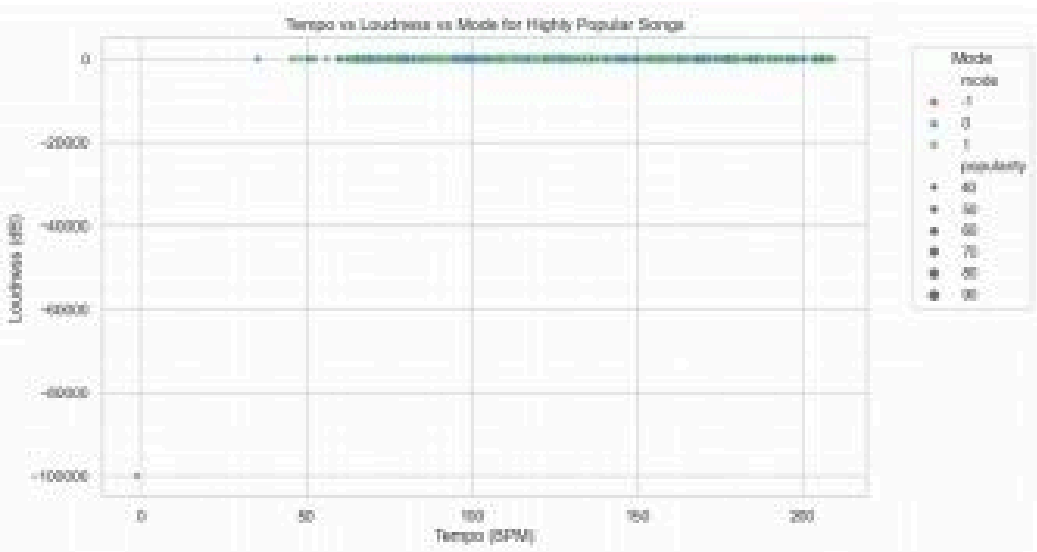


User Demographic and Behaviour

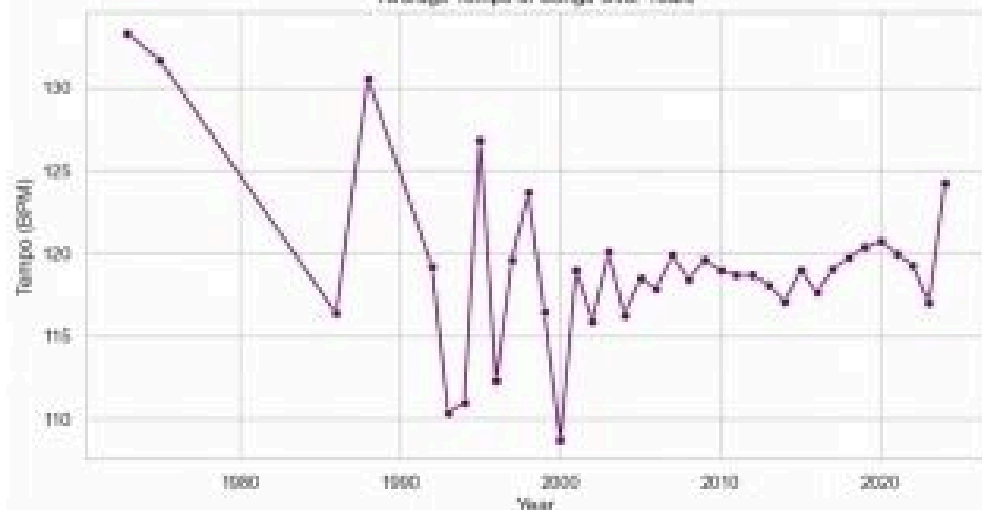




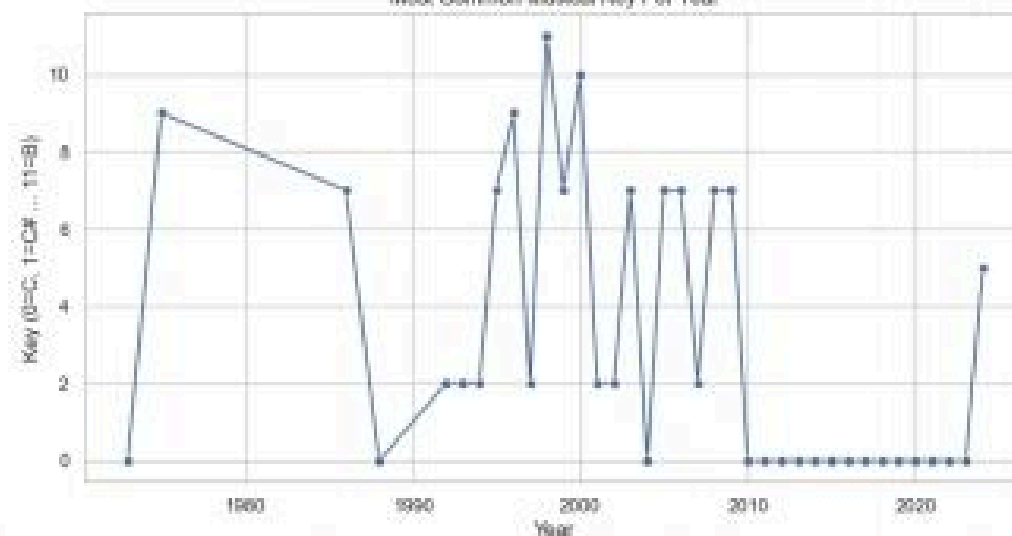




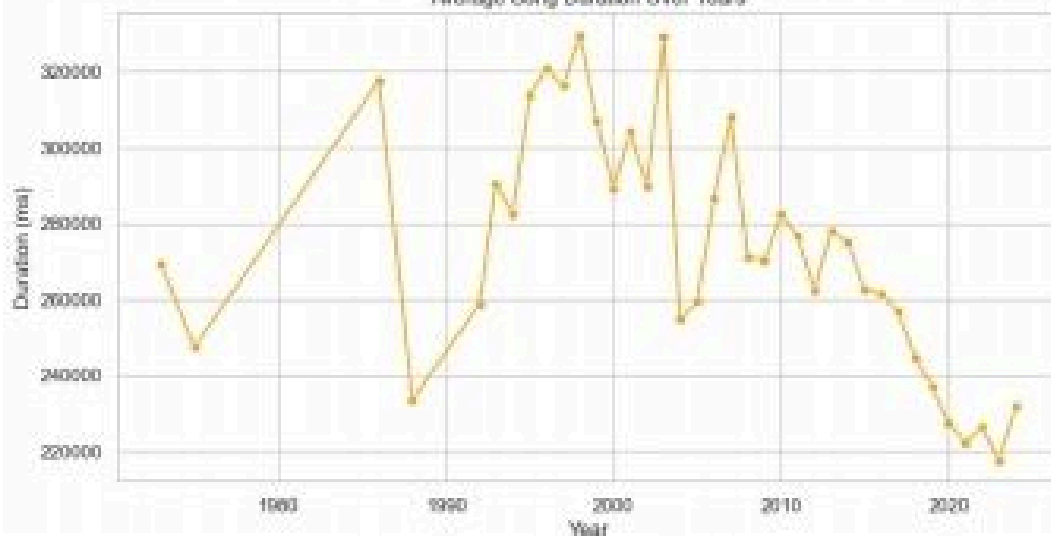
Average Tempo of Songs Over Years



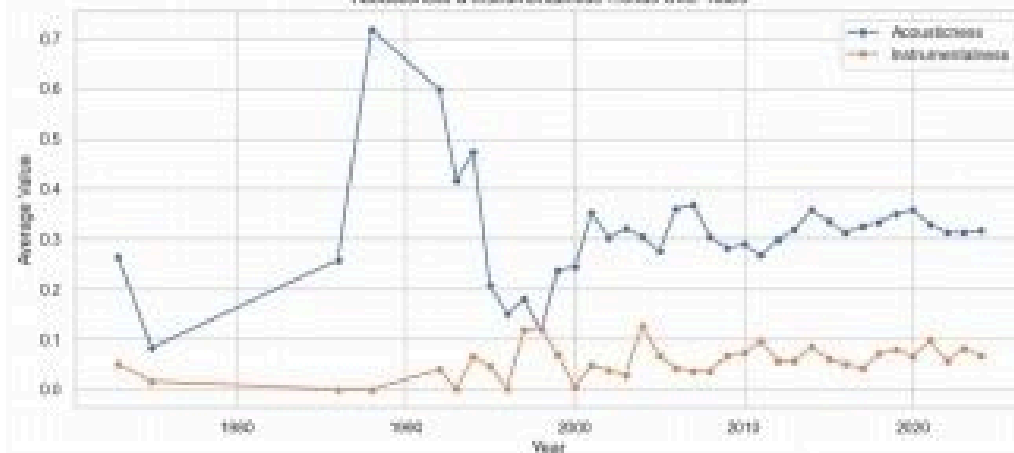
Most Common Musical Key Per Year



Average Song Duration Over Years



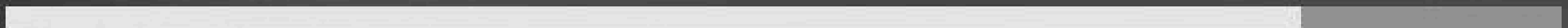
Acousticness & Instrumentalness Trends Over Years



SPOTIFY DATASET STATISTICS

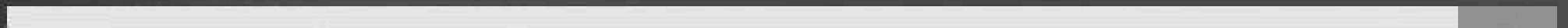
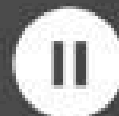


- Dataset includes thousands of tracks featuring key audio features like danceability, energy, valence, and tempo.
- Provides a comprehensive view of music characteristics and trends across genres and years.
- Enables analysis of how audio attributes influence popularity and listener preferences.
- Useful for identifying patterns in successful songs and guiding music production strategies.



CONCLUSION

- Music trends evolve over time; modern songs are often shorter and more energetic.
- Popularity depends on multiple factors: genre, artist, tempo, and danceability.
- Pop, Hip-Hop, and EDM dominate the Spotify dataset in terms of track count and popularity.
- Certain audio features (energy, danceability) are strongly linked to popular tracks.
- Insights can help in music recommendations, marketing, and trend prediction.



THANK YOU

Any questions?

Analyze Spotify's dataset to uncover how audio features — such as energy, danceability, and valence — influence a song's popularity and listener engagement.

By: Snehal Basu

