Musical Divas Data

Exploring the Top charting hits of Beyonce, Mariah Carey, Taylor Swift

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Synopsis

In this project we obtained the current top 10 tracks from Beyonce, Mariah Carey and Taylor Swift from Spotify. We were able to gather the data on the following metrics: Popularity, Danceability, Valence, Loudness, Speachiness, Tempo, and Energy for each track. We arranged the tracks by Popularity. We wanted to know if any of the categories had an impact on the tracks popularity.

1		All I Want for Christm...
2		Christmas (Baby Pleas...
3		O Holy Night
4		Oh Santa! (feat. Ariana...
5		We Belong Together
6		Obsessed
7		Fantasy
8		Santa Claus Is Comin' ...
9		I Know What You Wan... E
10		Touch My Body

1  CUFF IT
E

2  Crazy In Love (feat. Ja...

3  MY HOUSE
E

4  Halo

5  BREAK MY SOUL

6  Single Ladies (Put a Ri...

7  ALIEN SUPERSTAR
E

8  HEATED
E

9  Beautiful Liar

10 

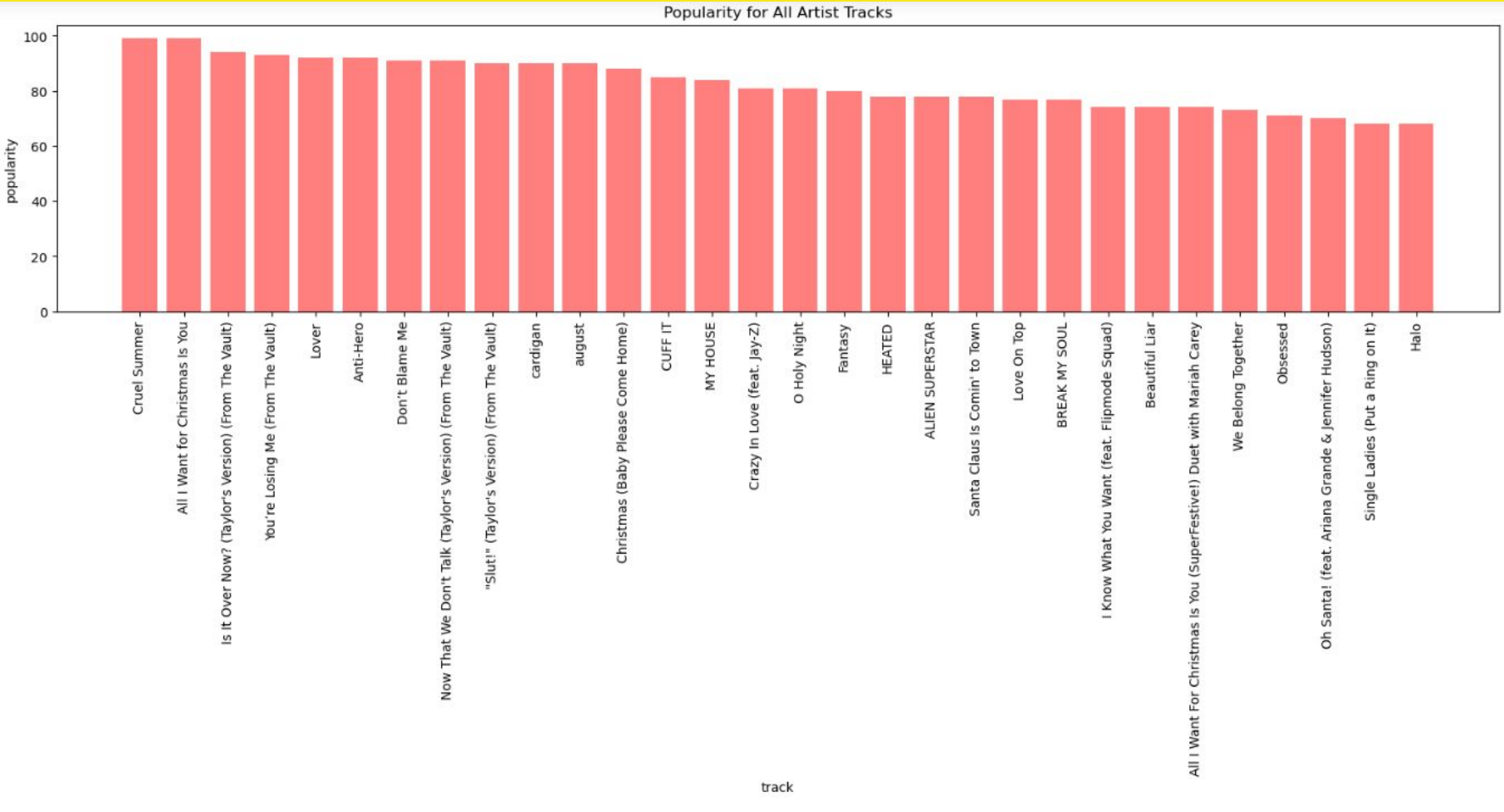
Love On Top

1		Cruel Summer
2		Is It Over Now? (Taylo...
3		Anti-Hero
4		Now That We Don't Ta...
5		You're Losing Me (Fro...
6		Lover
7		"Slut!" (Taylor's Versio...
8		cardigan
9		august
10		Blank Space

Popularity

The popularity of a track is a value between 0 and 100, with 100 being the most popular. The popularity is calculated by algorithm and is based, in the most part, on the total number of plays the track has had and how recent those plays are.

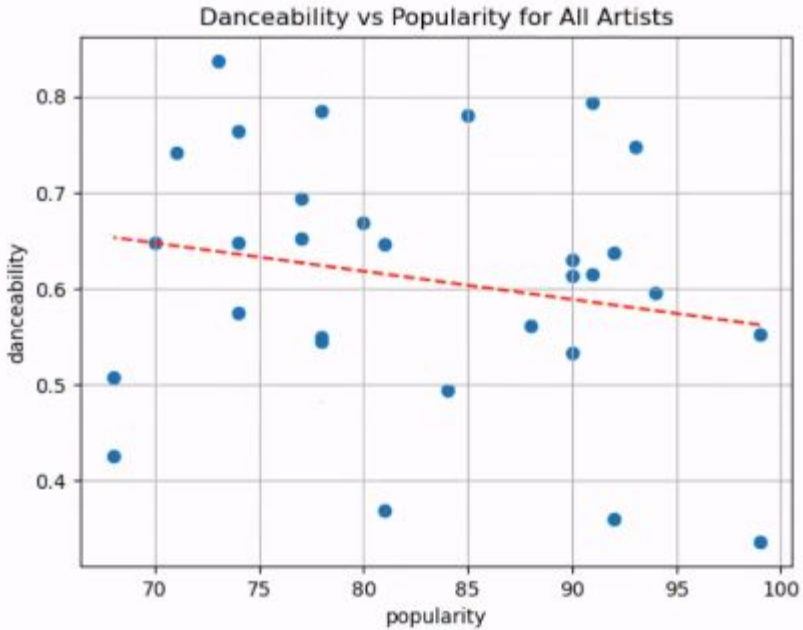
Generally speaking, songs that are being played a lot now will have a higher popularity than songs that were played a lot in the past. Duplicate tracks (e.g. the same track from a single and an album) are rated independently. Artist and album popularity is derived mathematically from track popularity.


Popularity for All Artist Tracks
popularity
0
20
40
60
80
100
Cruel Summer
All I Want for Christmas Is You
Is It Over Now? (Taylor's Version) (From The Vault)
You're Losing Me (From The Vault)
Lover
Anti-Hero
Don't Blame Me
Now That We Don't Talk (Taylor's Version) (From The Vault)
"Slut!" (Taylor's Version) (From The Vault)
cardigan
august
Christmas (Baby Please Come Home)
CUFF IT
MY HOUSE
Crazy In Love (feat. Jay-Z)
O Holy Night
Fantasy
HEATED
ALIEN SUPERSTAR
Santa Claus Is Comin' to Town
Love On Top
BREAK MY SOUL
I Know What You Want (feat. Flipmode Squad)
Beautiful Liar
All I Want For Christmas Is You (SuperFestive!) Duet with Mariah Carey
We Belong Together
Obsessed
Oh Santa! (feat. Ariana Grande & Jennifer Hudson)
Single Ladies (Put a Ring on It)
Halo
track

Danceability

Danceability describes how suitable a track is for dancing based on a combination of musical elements including tempo, rhythm stability, beat strength, and overall regularity. A value of 0.0 is least danceable and 1.0 is most danceable.

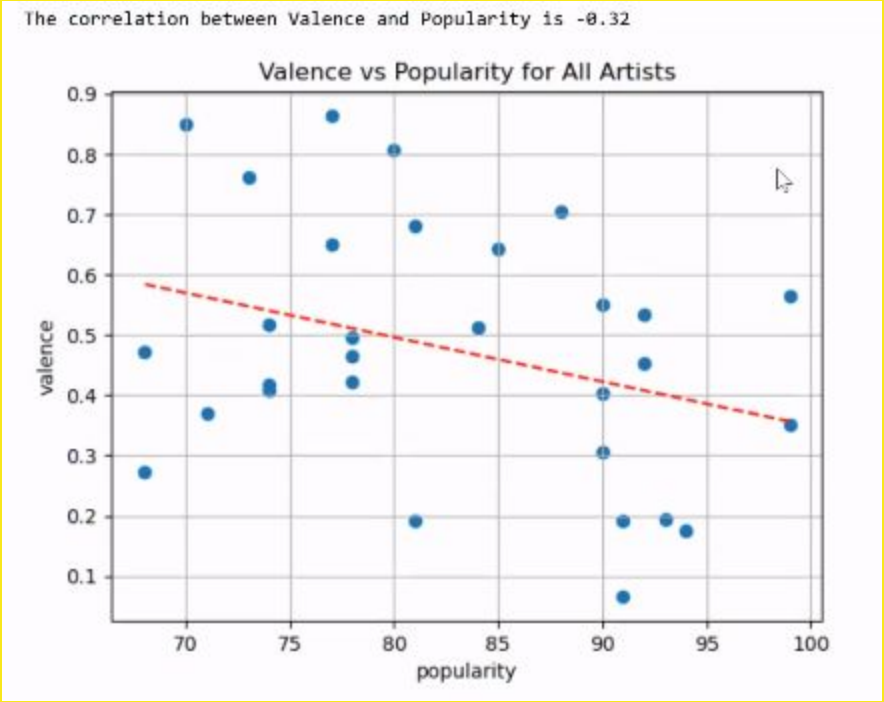
The correlation between danceability and Popularity is -0.21



Valence

A measure from 0.0 to 1.0 describing the musical positiveness conveyed by a track. Tracks with high valence sound more positive (e.g. happy, cheerful, euphoric), while tracks with low valence sound more negative (e.g. sad, depressed, angry).

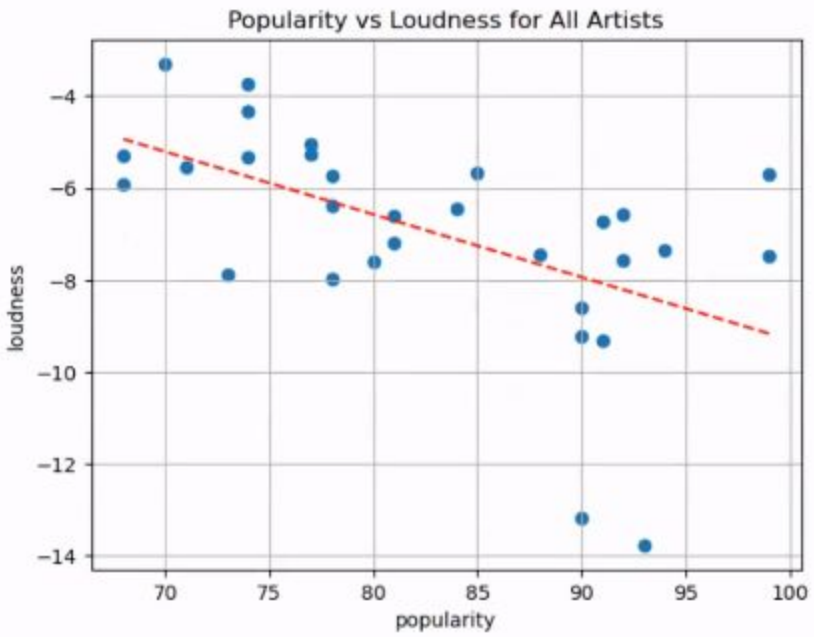
The correlation between Valence and Popularity is -0.32



Loudness

The overall loudness of a track in decibels (dB). Loudness values are averaged across the entire track and are useful for comparing relative loudness of tracks. Loudness is the quality of a sound that is the primary psychological correlate of physical strength (amplitude). Values typically range between -60 and 0 db.

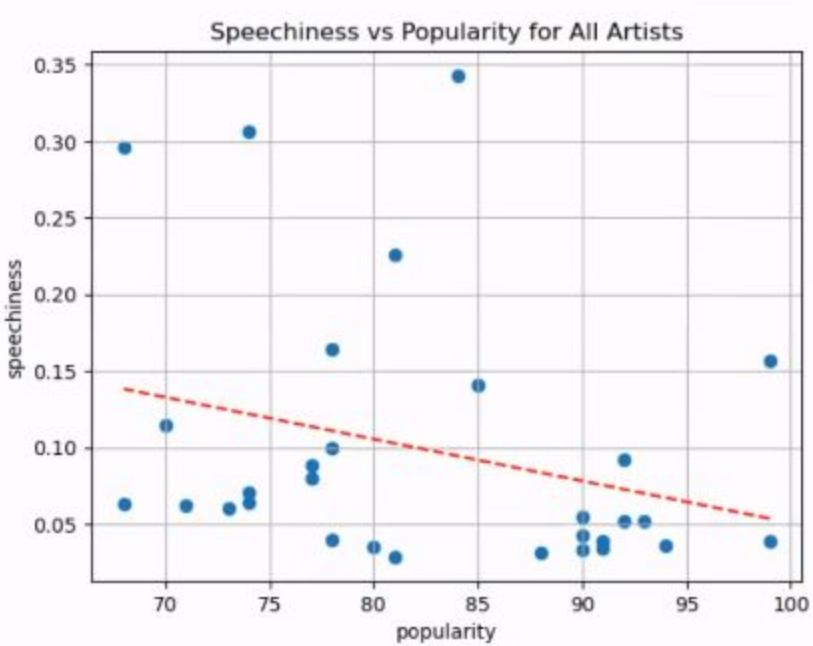
The correlation between loudness and Popularity is -0.55



Speechiness

Speechiness detects the presence of spoken words in a track. The more exclusively speech-like the recording (e.g. talk show, audio book, poetry), the closer to 1.0 the attribute value. Values above 0.66 describe tracks that are probably made entirely of spoken words. Values between 0.33 and 0.66 describe tracks that may contain both music and speech, either in sections or layered, including such cases as rap music. Values below 0.33 most likely represent music and other non-speech-like tracks.

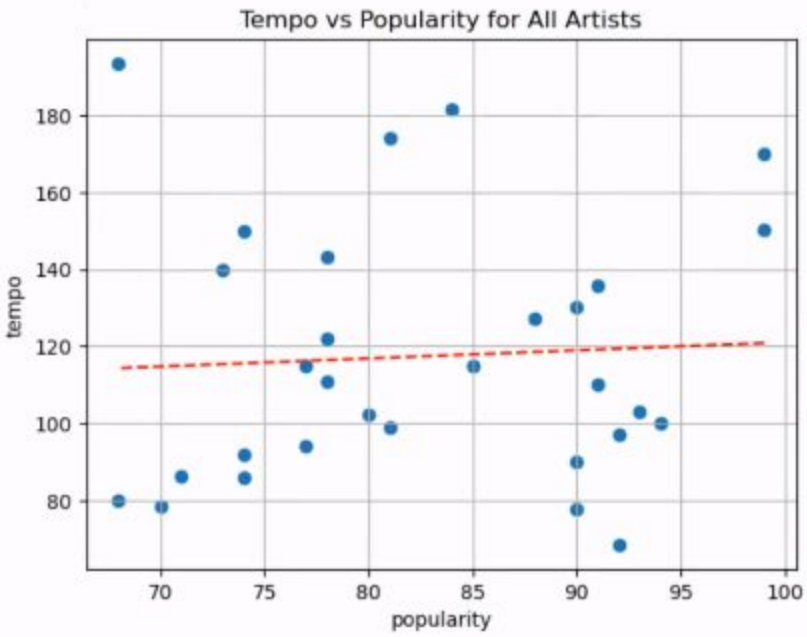
The correlation between speechiness and Popularity is -0.29



Tempo

The overall estimated tempo of a track in beats per minute (BPM). In musical terminology, tempo is the speed or pace of a given piece and derives directly from the average beat duration.

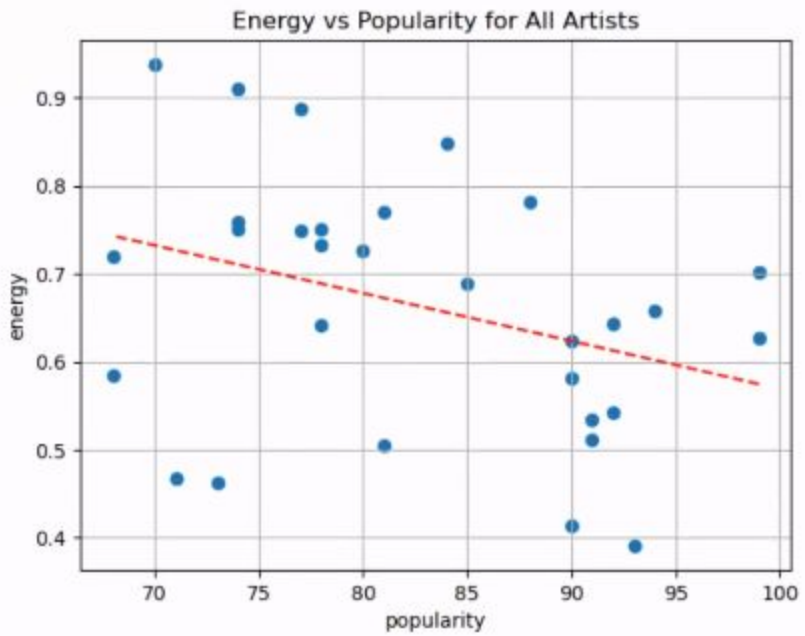
The correlation between Tempo and Popularity is 0.06



Energy

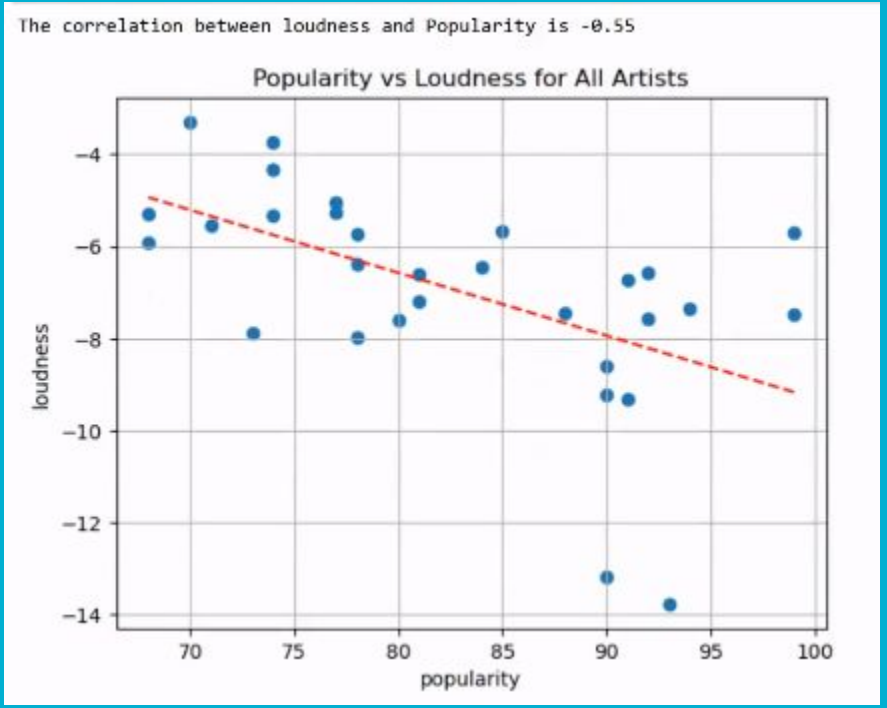
Energy is a measure from 0.0 to 1.0 and represents a perceptual measure of intensity and activity. Typically, energetic tracks feel fast, loud, and noisy. For example, death metal has high energy, while a Bach prelude scores low on the scale. Perceptual features contributing to this attribute include dynamic range, perceived loudness, timbre, onset rate, and general entropy.

The correlation between energy and Popularity is -0.35



Findings

Our analysis unveiled that the popularity of a song appears to be closely tied to its loudness, with the two metrics exhibiting a strong correlation. This insight provides valuable information for understanding the factors influencing the popularity of music and offers potential avenues for further exploration.



Work Cited

https://developer.spotify.com/documentation/web-api/reference/get-an-artists-top-tracks

https://developer.spotify.com/documentation/web-api/reference/get-audio-features


QUESTIONS