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# ANALYZING SPOTIFY DATA

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Welcome to my music analytics project. Here, I look closely at my Spotify music listening habits. I love both music and data, and this project brings them together to find out what my music choices say about me. By analyzing my data, I want to learn about my regular song choices and see how they change. This project is like mapping my musical journey to understand not just the songs I play the most, but also why I choose them and what patterns show up over time.



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# MOTIVATION

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The primary motivation for this project stemmed from a desire to understand my own music listening habits more deeply. I wanted to explore whether I tend to listen to the same songs frequently, revealing a pattern in my music preferences. This project also offered a practical opportunity to enhance my data analysis and visualization skills, using real data from my own music streaming history. It's a blend of personal interest in my music taste and a professional endeavor to sharpen my technical abilities in data handling and analysis.

My Hypothesis Statement: My music listening habits are characterized by a high degree of consistency, resulting in a significant overlap in my top songs across different months and even on a yearly basis. This suggests that I tend to listen to the same set of songs frequently, indicating strong and stable personal music preferences.

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User Profile: mustafakiraz06

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Country: TR  
Age: 20 years  
Gender: male  
Account Age: 6 years

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# DATA SOURCES

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For this project, I used a collection of JSON files that contain my personal Spotify data. These files include:

**Streaming History:** Two separate files (StreamingHistory0.json and StreamingHistory1.json) providing detailed records of the tracks I listened to, including timestamps and listening duration.

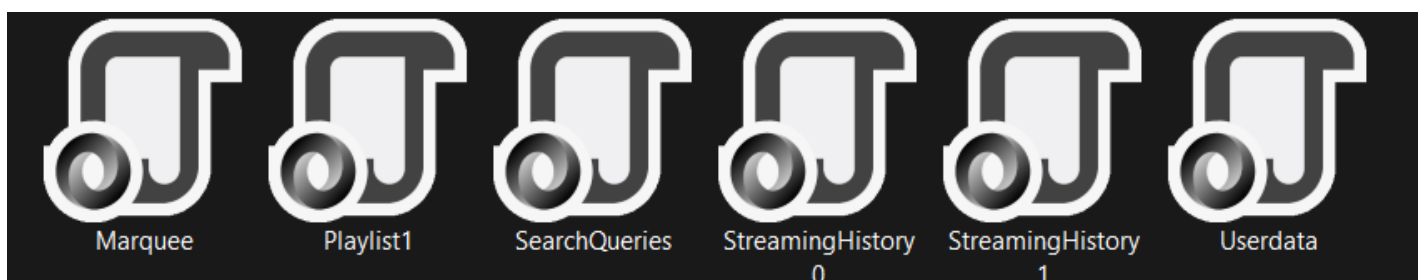
**Playlist Information:** The Playlist1.json file, which contains data about my playlists, including the tracks and their respective album information.

**Search Queries:** The SearchQueries.json file records all the search queries I made on Spotify, allowing for an analysis of my searching behavior and preferences.

**User Data:** The Userdata.json file, which includes my personal details as registered on Spotify, such as username, country, birthdate, and gender.

**Marquee Data:** The Marquee.json file, which provides insights into the marketing and promotional aspects of music on Spotify, such as featured artists and tracks.

Each of these files represents a different aspect of my interaction with music on Spotify, offering a comprehensive view of my listening habits, preferences, and interactions with the platform. This rich dataset serves as the foundation for the analysis conducted in this project.



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# FINDINGS

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Upon analyzing my personal Spotify data, I discovered several interesting patterns and trends in my music listening habits. The data analysis was focused on understanding whether I listen to a consistent set of songs over time and if my top songs each month show similarities, reinforcing my initial hypothesis.

By examining my playlist data, search queries, streaming history, and user data, I was able to paint a vivid picture of my musical preferences throughout the year 2023. Here are some key findings:

**Consistent Favorites:** I found that certain tracks consistently appeared in my top playlists month after month. This reveals a strong inclination towards specific songs that define my listening behavior.

**Monthly and Annual Trends:** The top songs varied each month, but there was a notable presence of recurring tracks, suggesting a blend of evolving tastes with a base of enduring favorites.

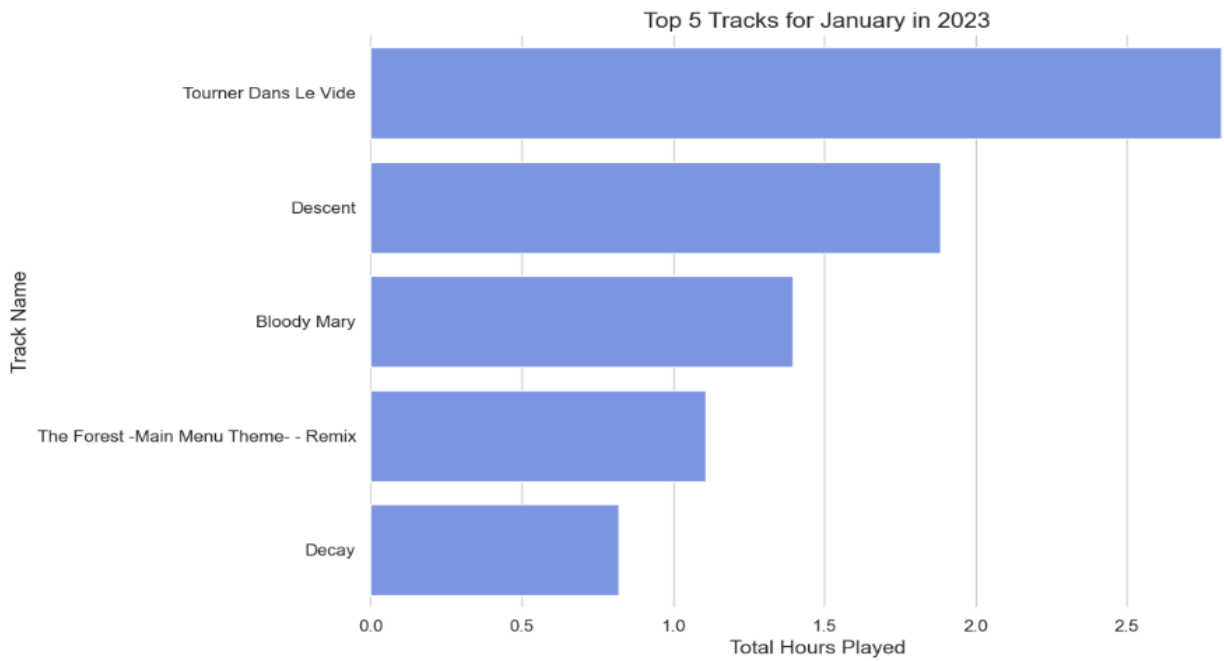
**Listening Diversity:** While there were clear favorites, the diversity of songs listened to each month indicated a willingness to explore new music, although to a lesser extent than returning to familiar tracks.

**Visual Insights:** The bar charts further illustrate the hours I spent listening to my top songs, providing a visual representation of the degree to which certain tracks dominated my listening time.

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Displaying the top 5 tracks for January 2023

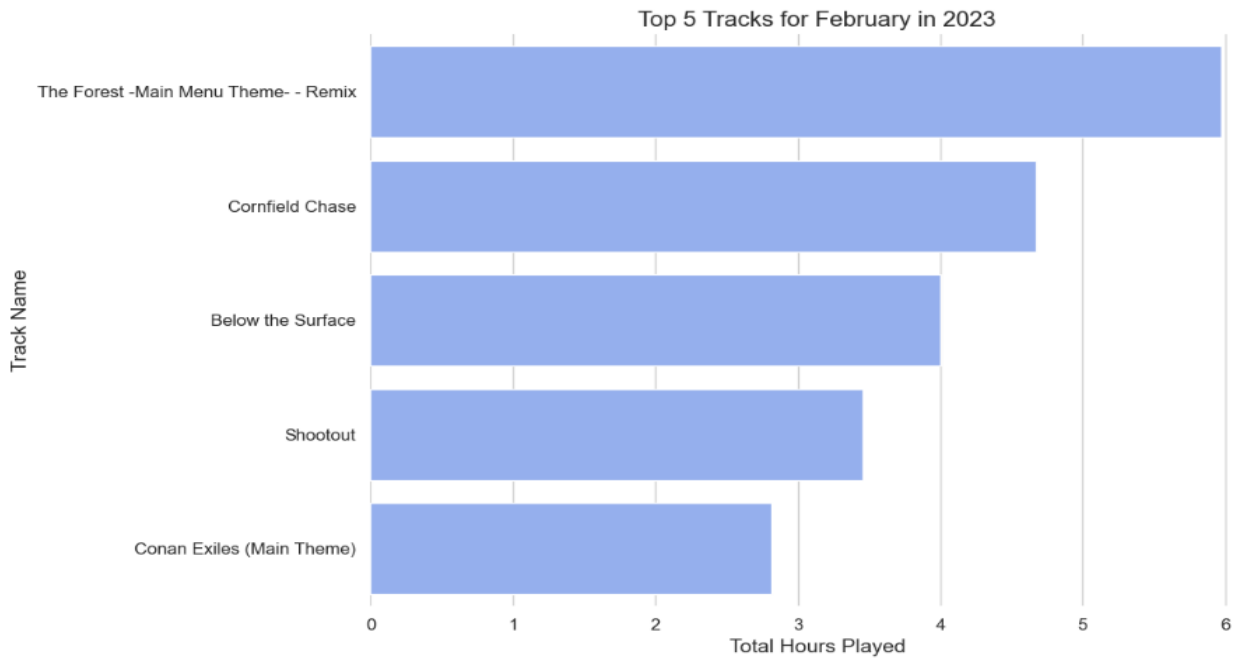
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Displaying the top 5 tracks for February 2023

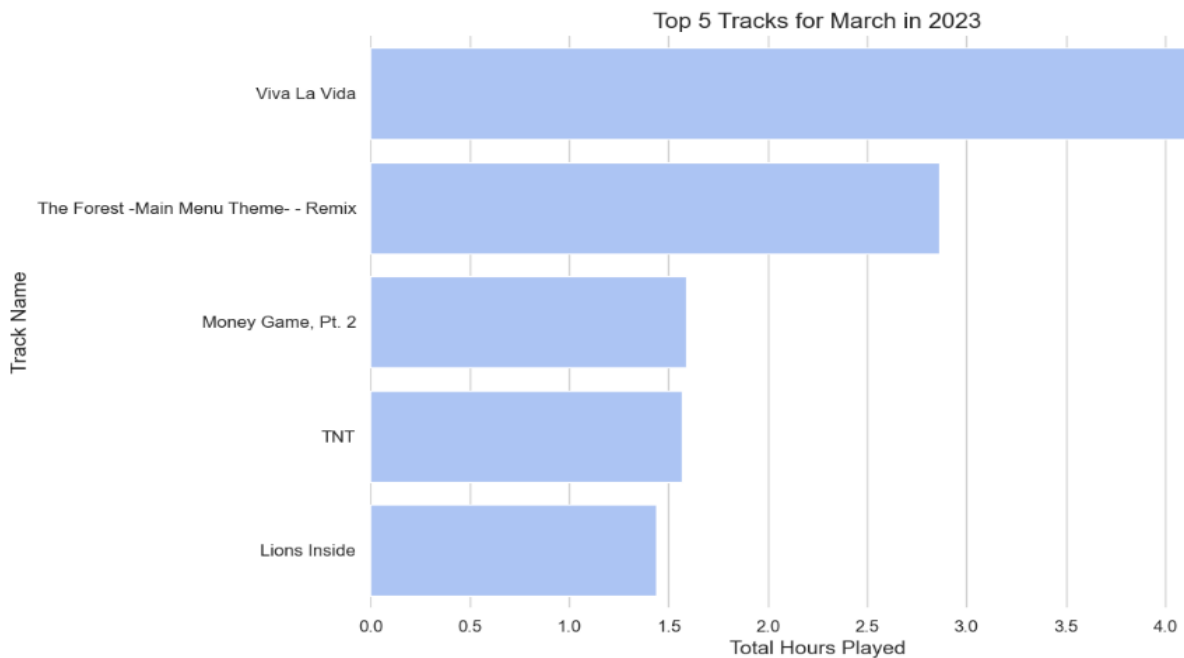
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Displaying the top 5 tracks for March 2023

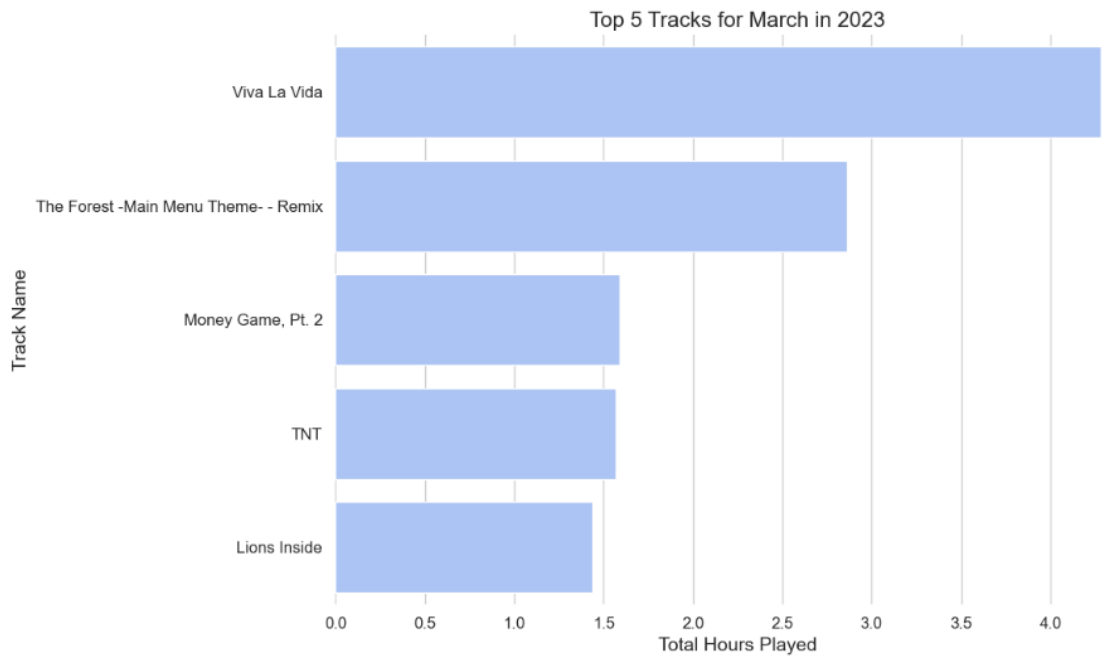
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Displaying the top 5 tracks for March 2023

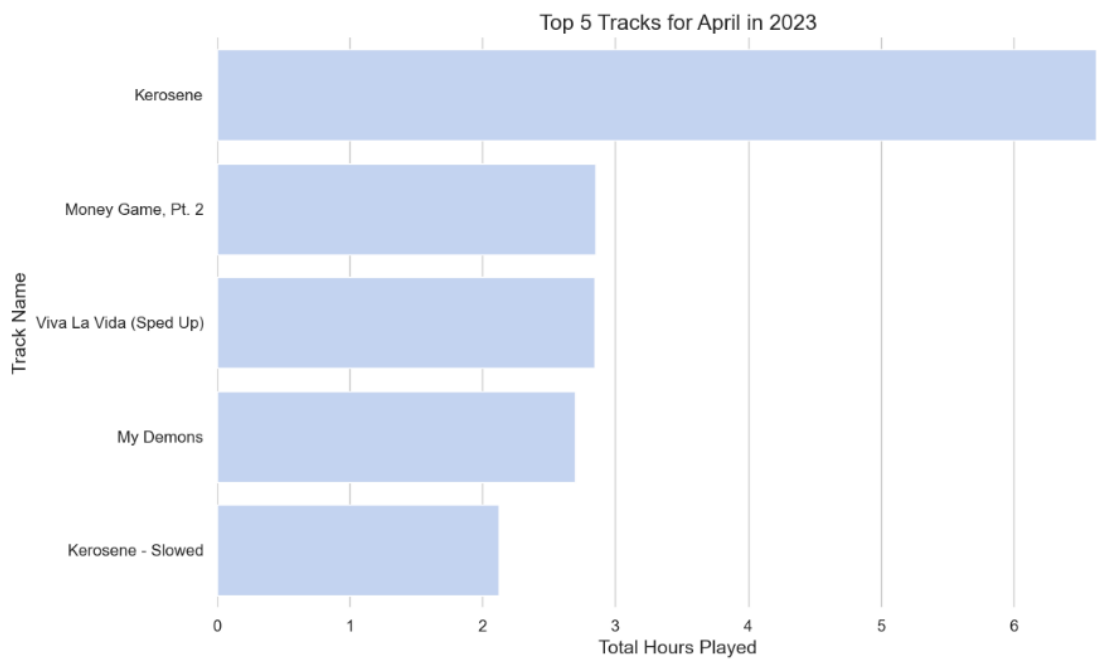
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Displaying the top 5 tracks for April 2023

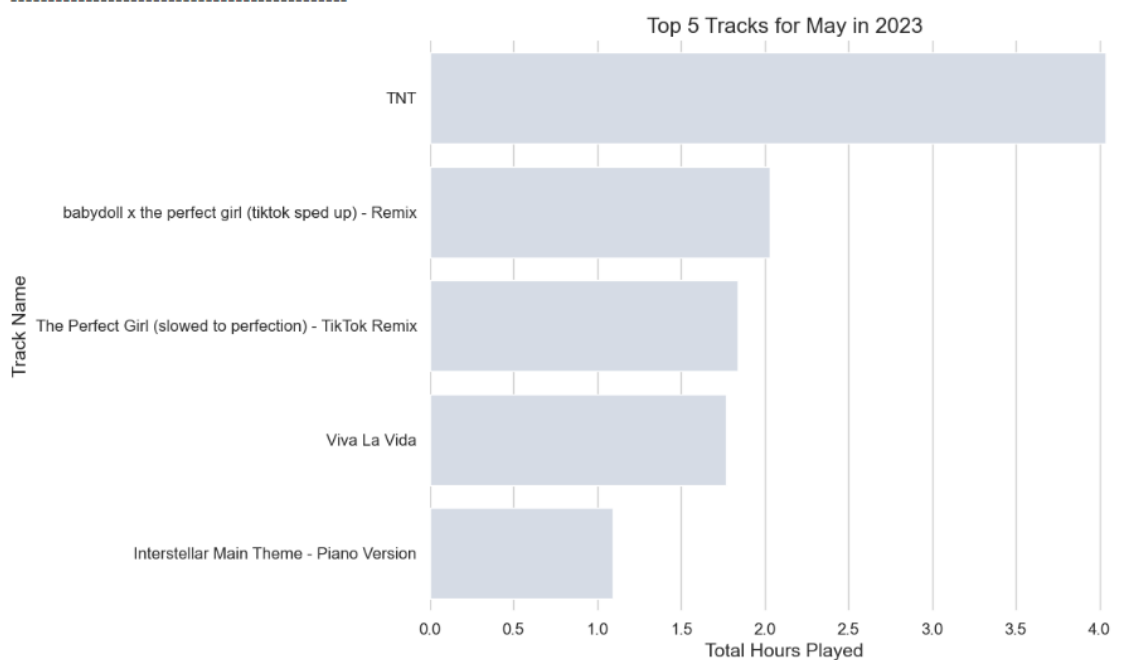
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Displaying the top 5 tracks for May 2023

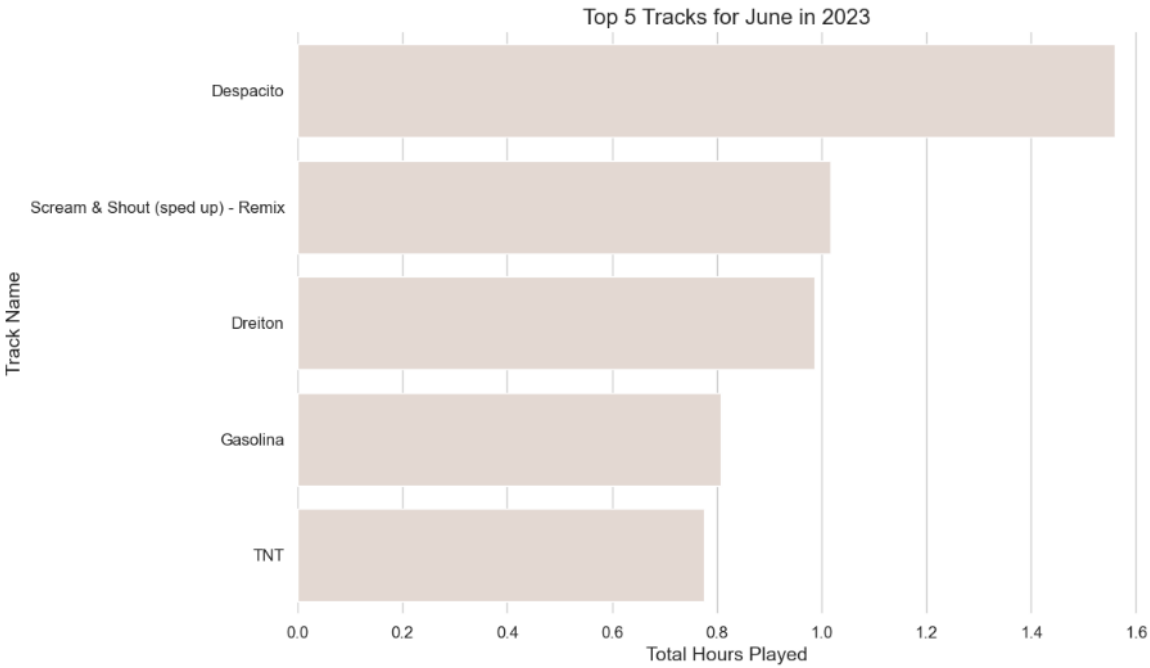
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Displaying the top 5 tracks for June 2023

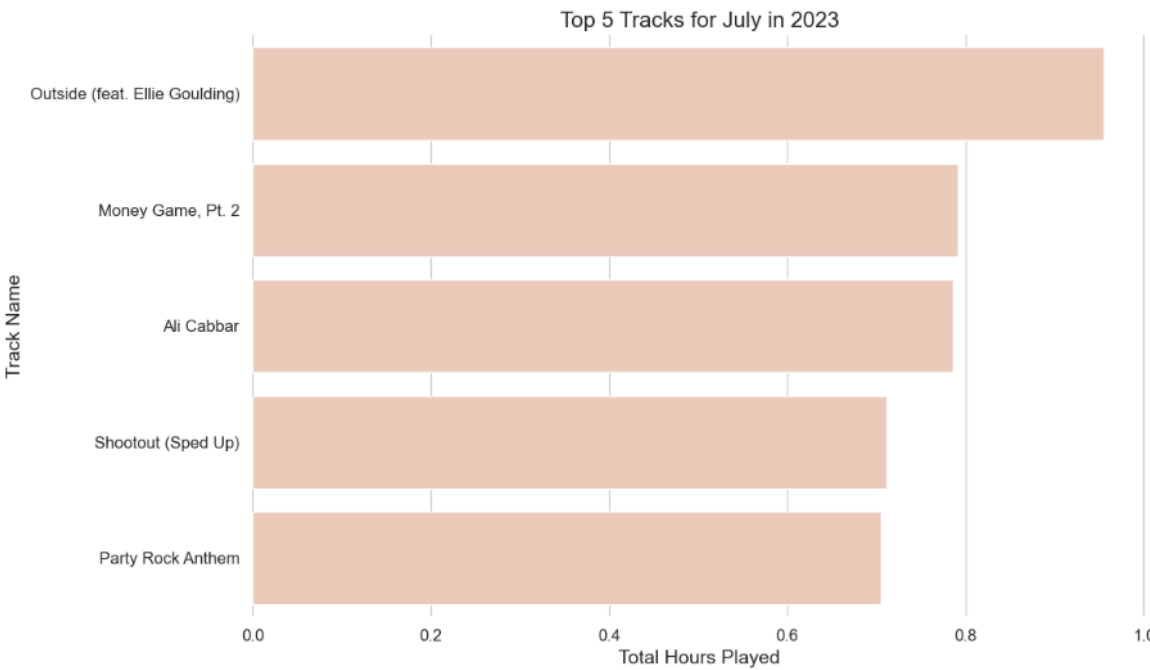
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Displaying the top 5 tracks for July 2023

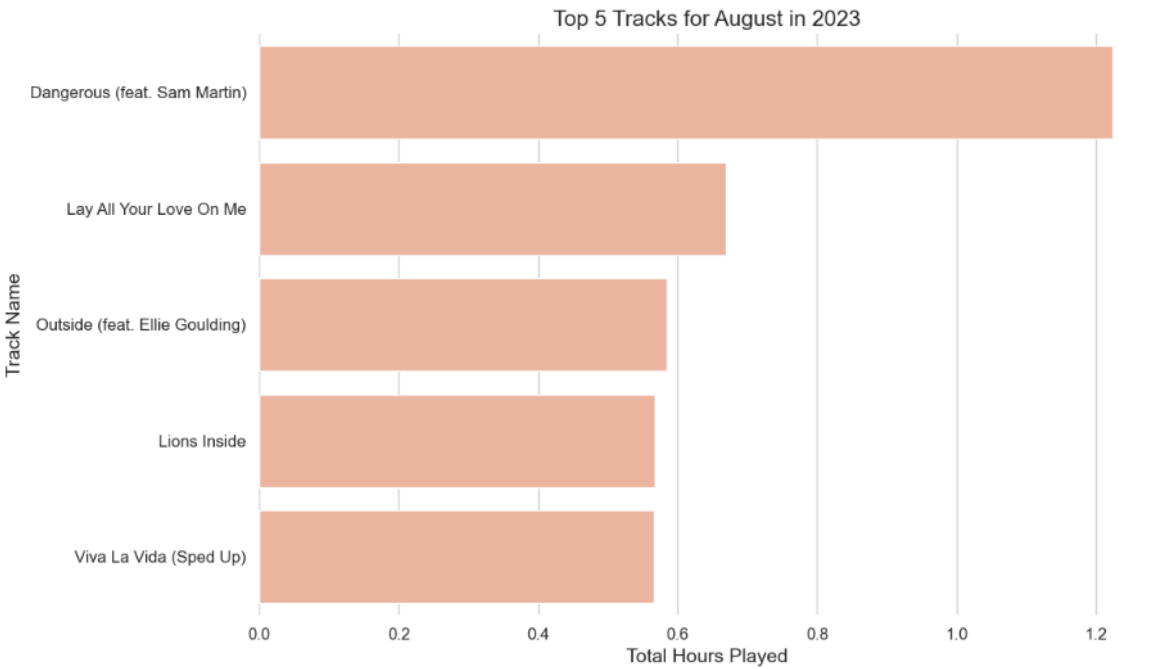
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Displaying the top 5 tracks for August 2023

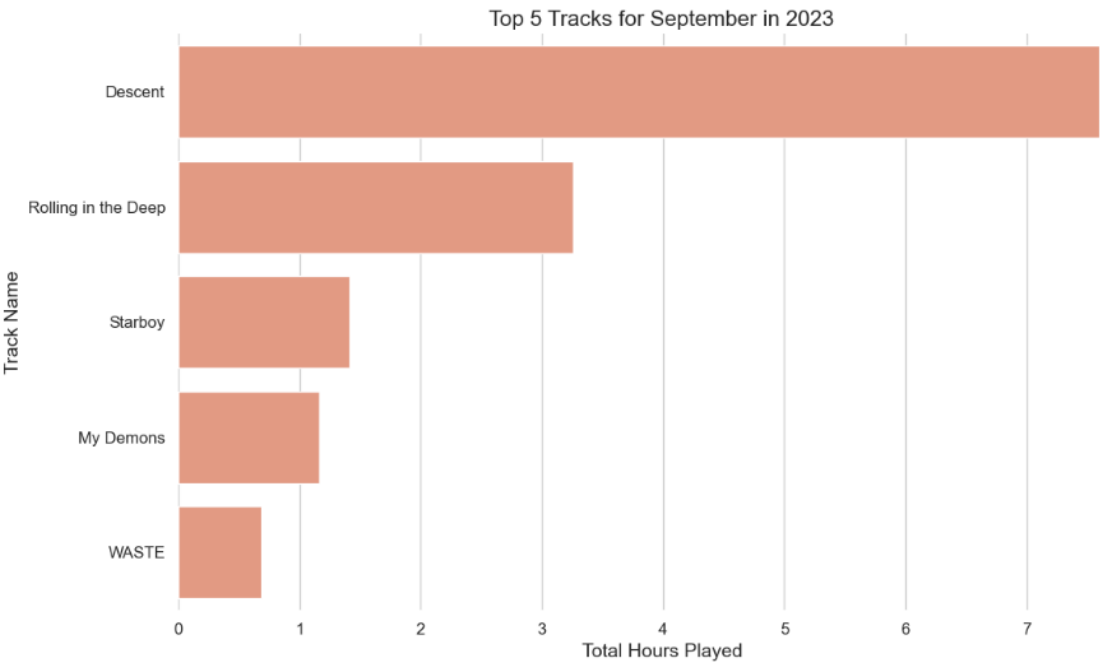
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Displaying the top 5 tracks for September 2023

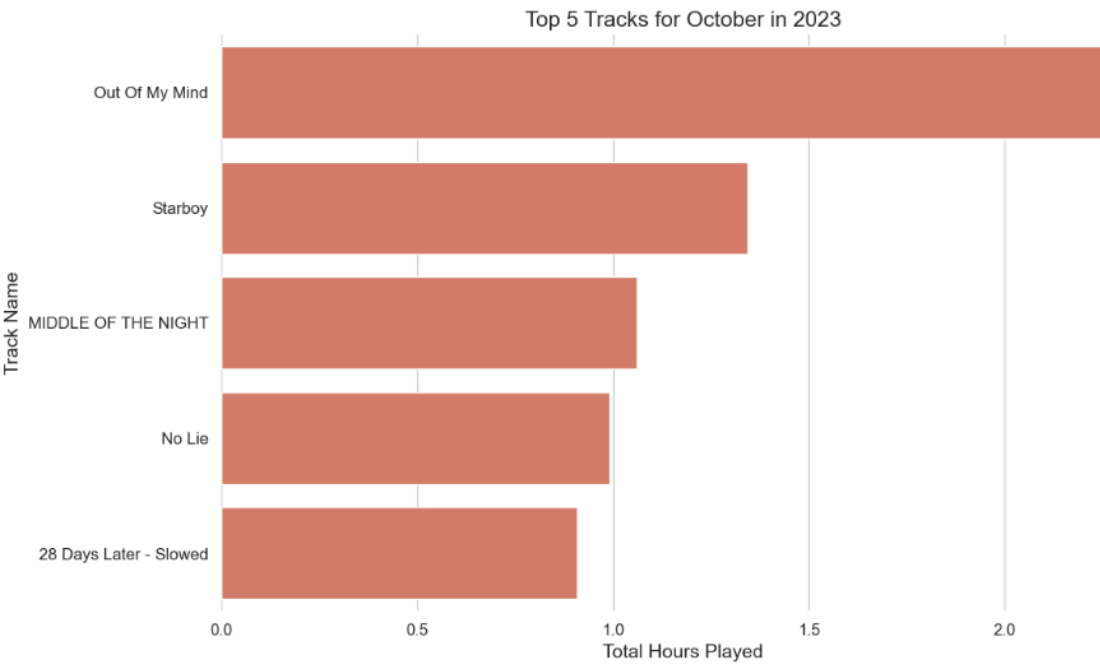
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Displaying the top 5 tracks for October 2023

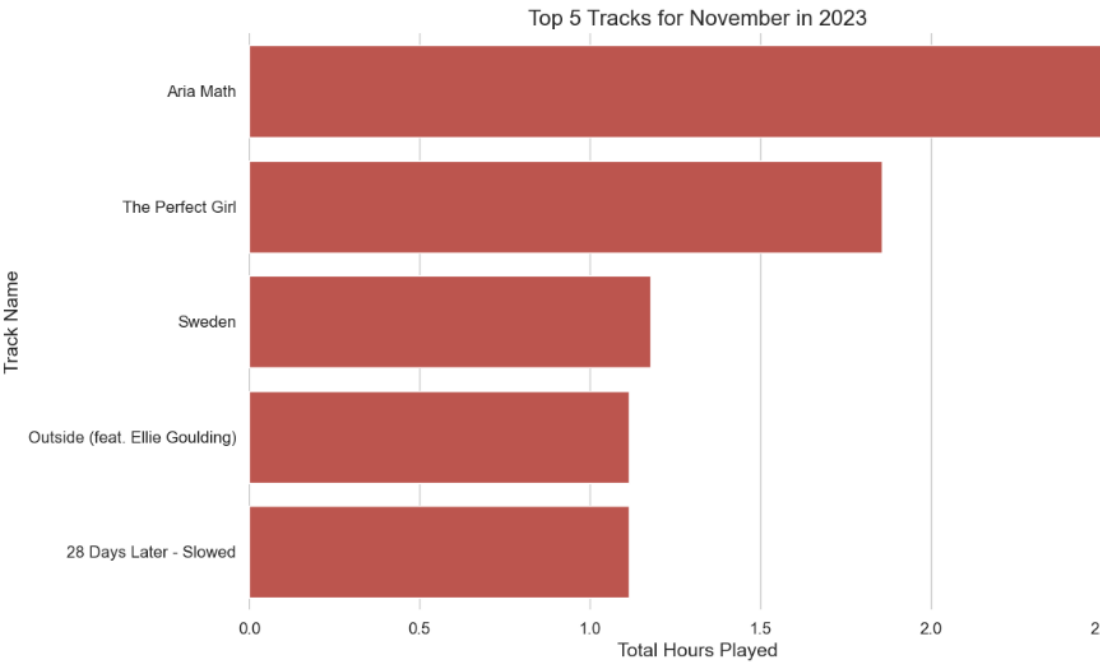
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Displaying the top 5 tracks for November 2023

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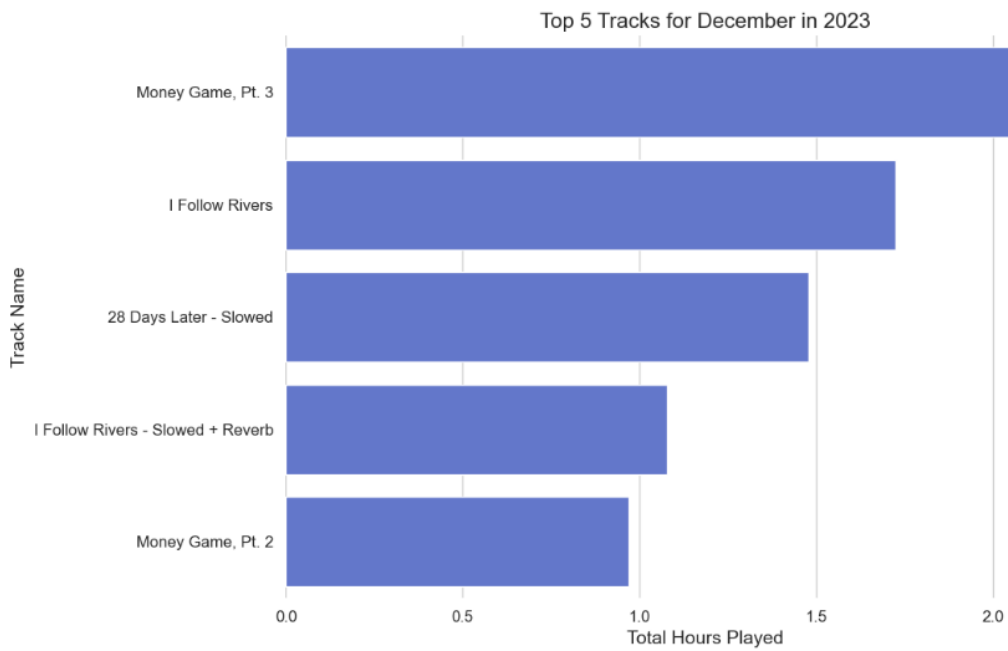




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Displaying the top 5 tracks for December 2023

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Platform Preferences: below the data also highlighted that the majority of my searches were conducted on a particular platform, hinting at a comfortable and preferred ecosystem for my music exploration.

Also the chart shows my Top 5 listened songs in 2023:

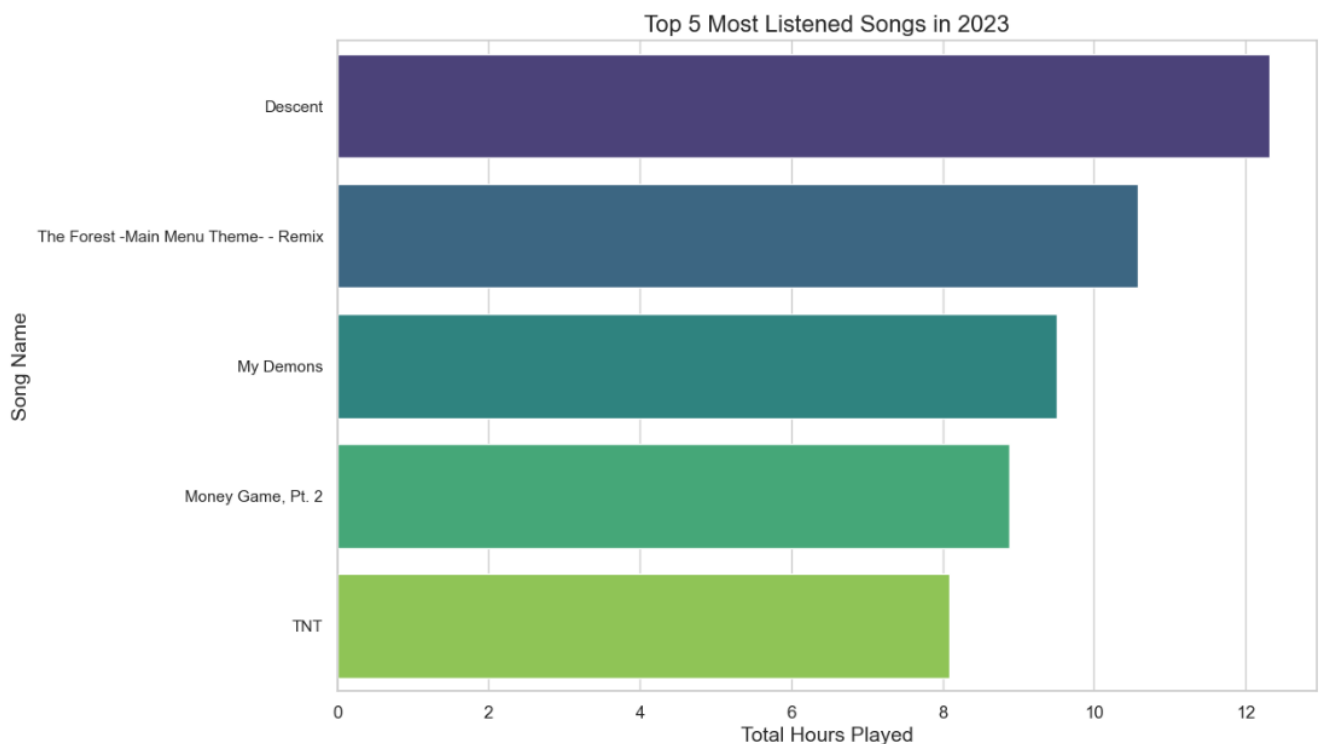
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Most Frequent Playlist among all playlists: Vibin' RN

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Most Common Platform Used for Spotify Searches:IPHONE (appeared 411 times)

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By Spotify wrapped up 2023 we can confirm my findings:

# 2023'te En Çok Dinlediğin Şarkılar

Spotify Özeti, bu yıl severek dinlediğin şarkıları sunar.

 mustafakiraz06 için hazırlandı

5s 36d

   ...  

	<b>Descent</b> Alex Rehberg, Facepunch Studios		...
	<b>The Forest -Main Menu Theme-...</b> Vanilla Ice		...
	<b>My Demons</b> STARSET		...
	<b>Money Game, Pt. 2</b> S Ren		...
	<b>TNT</b> Captainsparklez, Tryhardninja		...

These findings support the hypothesis that while my music preferences are varied, there is a substantial element of consistency in what I listen to. The same set of songs frequently recurs in my playlists, indicating that once I find songs that resonate with me, they become a staple of my listening routine for extended periods.

Some of album and the songs that I listened most In that albume:

(The list is bigger dont forget to check it out on my python notebook :) )

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Playlist: 'Sleep'

Album: 'Minecraft - Volume Alpha', Most listened song in this album: 'Sweden'

Hours listened: 2.68, Number of songs from this album in the playlist: 5

Album: 'Minecraft - Volume Beta', Most listened song in this album: 'Aria Math'

Hours listened: 3.76, Number of songs from this album in the playlist: 3

Playlist: 'Sadece Hüzün'

Album: 'From the Circus to the Sea, Pt. 2', Most listened song in this album: 'In This Shirt'

Hours listened: 3.93, Number of songs from this album in the playlist: 1

Album: '17', Most listened song in this album: 'Jocelyn Flores'

Hours listened: 0.85, Number of songs from this album in the playlist: 1

Album: 'The Marshall Mathers LP', Most listened song in this album: 'Stan'

Hours listened: 1.86, Number of songs from this album in the playlist: 1

Album: '?', Most listened song in this album: 'the remedy for a broken heart (why am I so in love)'

Hours listened: 1.27, Number of songs from this album in the playlist: 2

Album: 'Wiped Out!', Most listened song in this album: 'Daddy Issues'

Hours listened: 3.70, Number of songs from this album in the playlist: 1

Album: 'Revenge', Most listened song in this album: 'Revenge - Sped up'

Hours listened: 1.96, Number of songs from this album in the playlist: 1

Album: 'Depression Cherry', Most listened song in this album: 'Space Song'

Hours listened: 4.02, Number of songs from this album in the playlist: 1

Album: 'Passion & Confusion', Most listened song in this album: 'Tell Me Why I'm Waiting'

Hours listened: 0.64, Number of songs from this album in the playlist: 1

Album: 'All Is Wild, All Is Silent', Most listened song in this album: 'Remembrance'

Hours listened: 2.07, Number of songs from this album in the playlist: 1

Album: 'DISORDER', Most listened song in this album: 'WASTE'

Hours listened: 3.43, Number of songs from this album in the playlist: 1

Album: 'Hope', Most listened song in this album: 'Hope - Sped Up'

Hours listened: 1.69, Number of songs from this album in the playlist: 1

Album: 'mockingbird - sped up + reverb', Most listened song in this album: 'mockingbird - sped up + reverb'

Hours listened: 3.37, Number of songs from this album in the playlist: 1

Album: 'Memories x Another Love', Most listened song in this album: 'Memories x Another Love - Tiktok Remix'

Hours listened: 0.22, Number of songs from this album in the playlist: 1

Album: 'Viva La Vida (Sped Up)', Most listened song in this album: 'Viva La Vida (Sped Up)'

Hours listened: 5.37, Number of songs from this album in the playlist: 1

Album: 'Hybrid Theory', Most listened song in this album: 'In the End'

Hours listened: 3.24, Number of songs from this album in the playlist: 1

Album: 'Get You The Moon (feat. Snøw)', Most listened song in this album: 'Get You The Moon (feat. Snøw)'

Hours listened: 1.49, Number of songs from this album in the playlist: 1

Album: 'Shootout (Sped Up)', Most listened song in this album: 'Shootout (Sped Up)'

Hours listened: 3.26, Number of songs from this album in the playlist: 1

Album: 'Freaks (Muffled & Slowed) (Instrumental)', Most listened song in this album: 'Freaks (Muffled & Slowed) - Instrumental'

Hours listened: 1.67, Number of songs from this album in the playlist: 1

Album: 'Favourite Worst Nightmare', Most listened song in this album: '505'

Hours listened: 3.65, Number of songs from this album in the playlist: 1

Album: 'experience (slowed + reverb)', Most listened song in this album: 'experience (slowed + reverb)'

Hours listened: 1.68, Number of songs from this album in the playlist: 1

Album: 'All my friends are toxic', Most listened song in this album: 'All my friends are toxic - Slowed Remix'

Hours listened: 0.28, Number of songs from this album in the playlist: 1

Album: 'Arcade', Most listened song in this album: 'Arcade - Slowed'

Hours listened: 0.19, Number of songs from this album in the playlist: 1

Playlist: 'Vibin' RN'

Album: 'The Papercut Chronicles II', Most listened song in this album: 'Stereo Hearts (feat. Adam Levine)'

Hours listened: 1.26, Number of songs from this album in the playlist: 1

Album: 'Stories', Most listened song in this album: 'Waiting For Love'

Hours listened: 1.05, Number of songs from this album in the playlist: 1

Album: 'The Days / Nights', Most listened song in this album: 'The Nights'

Hours listened: 1.03, Number of songs from this album in the playlist: 1

Album: 'Miss You', Most listened song in this album: 'Miss You'

Hours listened: 5.68, Number of songs from this album in the playlist: 1

Album: 'Long Way Down (Deluxe)', Most listened song in this album: 'Another Love'

Hours listened: 2.74, Number of songs from this album in the playlist: 1

Album: 'Skyfall', Most listened song in this album: 'Skyfall'

Hours listened: 0.55, Number of songs from this album in the playlist: 1

Album: 'After Hours', Most listened song in this album: 'Blinding Lights'

Hours listened: 6.47, Number of songs from this album in the playlist: 1

Album: 'The Marshall Mathers LP', Most listened song in this album: 'The Real Slim Shady'

Hours listened: 2.14, Number of songs from this album in the playlist: 1

Album: 'The Eminem Show', Most listened song in this album: 'Without Me'

Hours listened: 2.18, Number of songs from this album in the playlist: 2

Album: 'Viva La Vida or Death and All His Friends', Most listened song in this album: 'Viva La Vida'

Hours listened: 8.45, Number of songs from this album in the playlist: 1

Album: 'MIDDLE OF THE NIGHT', Most listened song in this album: 'MIDDLE OF THE NIGHT'

Hours listened: 5.52, Number of songs from this album in the playlist: 1

Album: 'dead', Most listened song in this album: 'idfc'

Hours listened: 6.46, Number of songs from this album in the playlist: 1

Album: 'Encore', Most listened song in this album: 'Mockingbird'

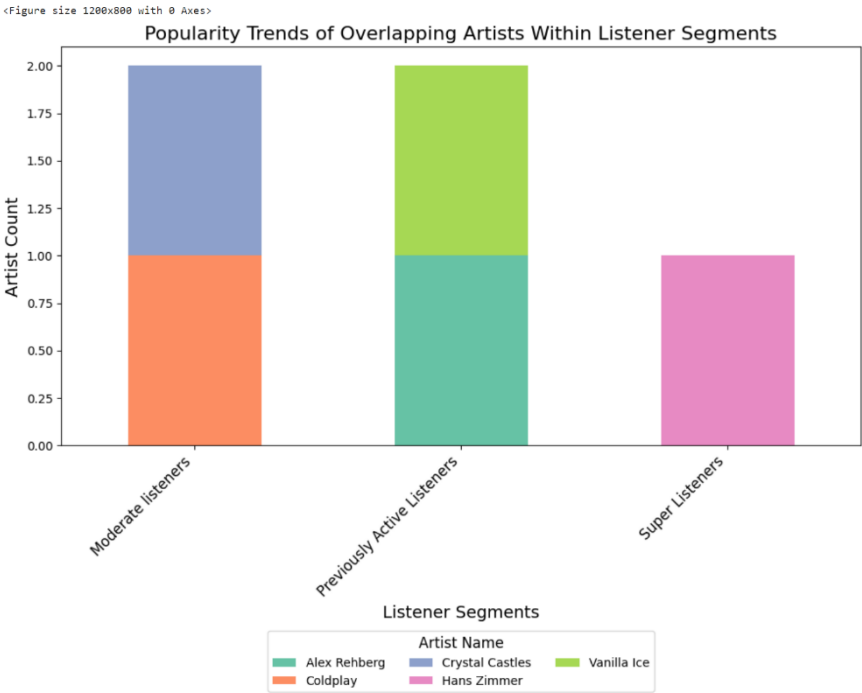
Hours listened: 2.04, Number of songs from this album in the playlist: 1

In addition to the insights gained from my personal streaming history, I also examined the popularity trends of various artists within different listener segments. This was visualized through a stacked bar chart, which allowed me to see the distribution of artist popularity across segments like 'Moderate Listeners', 'Previously Active Listeners', and 'Super Listeners'.

The bar chart reveals that my preferences are not isolated; certain artists have a cross-segment appeal. For example, the bar chart indicates a consistent appreciation for artists like Coldplay and Hans Zimmer across different types of listeners, which suggests that their music has a wide-reaching resonance that also aligns with my frequent listening choices. Meanwhile, other artists show more segmented appeal, indicating niche or evolving tastes that might correspond to specific periods or moods in my listening history.

The analysis of these popularity trends provides a richer narrative to my music listening report, offering both a personal and a community perspective on music consumption.

My music listening habits are captured in the chart above, which displays the popularity trends of overlapping artists within different listener segments using a stacked bar chart



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# LIMITATIONS AND FUTURE WORK

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## Limitations

The analysis presented in this project is subject to certain limitations, primarily dictated by the scope of the dataset provided by Spotify. The data is confined to my personal listening history, search queries, playlist contents, and user profile information available through Spotify's data export feature. Consequently, while the analysis provides a comprehensive view of my listening habits on Spotify, it does not capture all dimensions of music listening behavior. For example, genre-specific analysis, which could offer further insights into my musical preferences, was not

possible due to the absence of genre information in the dataset. Additionally, the data only reflects my interactions with the Spotify platform and does not account for any music listening that may occur outside of it or through other services.

## Future Work

In future iterations of this project, I may be improve these limitations in several ways:

**Data Enrichment:** Where possible, I aim to enrich the dataset with additional information, such as genre, sub-genre, or mood of the tracks, either by leveraging Spotify's API or by incorporating

datasets from other music platforms, provided they can be legally and ethically accessed. This would allow for a multi-faceted analysis that includes genre-specific trends and affinities.

**Cross-Platform Analysis:** To gain a more holistic understanding of my music listening patterns, I will consider including data from other music services and social media platforms, subject to data availability and privacy considerations.

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# CONCLUSION

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In conclusion, this project has been an eye-opener for me, giving me a clear view of what I listen to on Spotify. I've confirmed some of my favorite tunes and found out more about my music choices. Looking at all this data has shown me how we can use numbers to learn more about our personal tastes.

The information Spotify gave me was a great start, but there's still a lot more I can learn with even more data. Even with some limits, I've enjoyed this project a lot. It's made me better at analyzing data and has given me a deeper look into the music I love.

