Spotify Listening Data Analysis Project

📍 ASK – Why This Project?

I wanted to work on a small yet practical project to sharpen my **data analysis skills**. Instead of picking a typical dataset, I chose something personal—my own **Spotify listening history**.

Why? Honestly, who doesn't want to know their most played songs, artists, albums, or even track how their mood changes over the week? This was an opportunity to mix personal interest with analytical practice.

The main questions I wanted to answer:

- What's my total listening time?
- Do I listen more on weekends or weekdays?
- Who's my top artist and most played song?
- When am I most active?
- Do I replay songs often?

📍 PREPARE – Getting & Cleaning My Data

- First, I requested my **complete Spotify history** using their data request feature. Within 3 hours, Spotify sent me a **JSON file**.
- Since JSON isn't easy for analysis, I used **Python (pandas library)** to convert it into a **CSV file**.

When I opened the file, it was full of backend technical data—IP addresses, Spotify URIs, platform details, and playtime in milliseconds. Not helpful.

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Cleaning Steps:

- Removed unnecessary columns like IP address, country, Spotify track URIs, and platform info.
- Converted complex timestamps into clear columns: **Date, Day, Month, Year, Time, and Hour**.
- Transformed playtime from milliseconds into readable **minutes played**.
- Renamed technical columns into simple labels: **SongName, ArtistName, AlbumName**.
- Retained useful behavior data:

    - **ReasonStart**: Why a song started (click, autoplay, etc.)
    - **ReasonEnd**: Why it ended (finished, skipped, etc.)
    - **Skipped**: Whether I skipped it (TRUE/FALSE)
    - **Shuffle**: Shuffle mode ON/OFF
    - **Offline**: Online/Offline status

Finally, I stored the cleaned data in **Excel and CSV format**, ready for analysis.

📍 PROCESS – Organizing for Analysis

- Structured the dataset around **daily, weekly, monthly**, and **yearly trends**.
- Focused analysis on total playtime, top artists/songs/albums, and listening behaviors.
- Planned analysis workflow using **Excel, Tableau, SQL, and Canva** for calculations, visualizations, and reporting.

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📍 ANALYSE – Exploring My Spotify Habits

- Total listening time: **795+ hours** (~33 days).
- Most active day: **Thursday**.
- **October**: Most active month.
- **Pritam**: Top artist.
- **Awari**: Most played song (~8 hours total).
- 2024 listening increased **4.2x** compared to 2023.
- Longest listening streak: **145 consecutive days**.

Visualized findings using **Tableau and Canva**.

📍 SHARE – Presenting Insights

- Created presentation using **Canva**, highlighting:
    - Top songs, artists, albums.
    - Listening patterns and trends.
    - Fun facts (like 795 hours equal to watching 400+ movies).
- Charts designed in **Excel and Tableau**.
- Insights shared mainly for personal tracking but easily understandable by others.

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📍 ACT – Key Takeaways

- Gained personal insights into music habits and emotional patterns.
- Recognized repetitive listening behaviors.
- Action Point: Balance music time with real-world interactions. 😅

Tools Used: Python, Excel, Tableau, SQL, Canva

Project By: Nitish

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