Trends and the Progression of Popular Music

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Workflow

Spotify API (on top charts spanning multiple years)

Kaggle 1922-2021 Spotify Dataset

Dataworld Billboard Dataset 1970-2017

Description of Datasets

Combined Dataset (genre, year, popularity, other attributes)

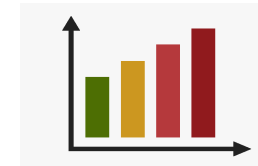matplotlib

Jupyter notebook

Results
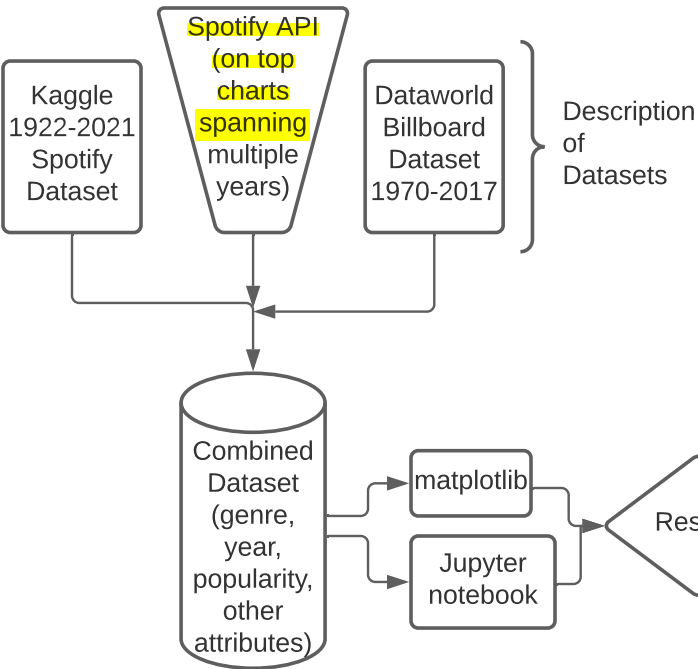
Kaggle Dataset: A massive collection of ~600k tracks obtained using the Spotify API, which allows for the user to obtain information about a track's attributes, provided by the Spotify API. These include popularity, genre, acousticness (measure of the utilization of live instruments), valence (how "happy" a track sounds), energy, danceability, etc.

Dataworld Dataset: Contains the top 100 Billboard songs through the years 1970 to 2017.

Data Analysis Methods
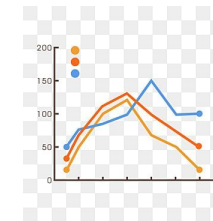
Line graph: charts the trends in the characteristics of popular tracks over the years, measuring valence levels, danceability, and acousticness

Bar graph: charts the levels of acousticness, valence levels, and danceability of each genre

Python's library matplotlib will be used to plot the data

SQL can be utilized to combine the datasets obtained from Kaggle, Dataworld, and personal scraping from the Spotify API, as well as to organize the data

Research Questions

-How does music evolve over the years in terms of the instrumentation used, mood of the piece, and the presence of lyrics?
-What are the characteristics of popular music and how do they change over the years?
-Does the trends in music reveal any trends in the culture as a whole during a specific time period?

Works Cited

https://www.kaggle.com/yamaerenay/spotify-dataset-19212020-160k-tracks?select=data_by_year_o.csv

https://data.world/typhon/billboard-hot-100-songs-from-1970-2017/workspace/file?filename=songs_1970_2018_uniq.csv

Interpretation of Data

I expect some trends in music to be fairly straightforward, with the significant increase in digital production of music lowering the acousticness attribute of tracks over the years, and increasing the danceability and energy attribute of tracks. The development of more genres, particularly in the electronic genre, will allow for a sudden increase in the levels of danceability and energy over the years. The valence levels of popular tracks will be expected to be high, indicating the positive feeling many popular tracks produce. I also expect to see dips in valence levels of music in some time periods, particularly during times of struggle, such as during the 1930s.

Further Exploration

By analyzing characteristics of certain genres, it will be interesting to see if some of the less popular genres share many of the same qualities as more popular ones. Through this, it may be possible to predict future trends in music, and see which genres may rise to popularity.