MATH 3570 Mini Project Proposal

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Title: What Makes a Song Danceable?

Data Set: https://www.kaggle.com/datasets/maharshipandya/-spotify-tracks-dataset?resource=download (shortened to top 25% popularity)

Description of Data Set: This data set gathers different variables about Spotify tracks. It has the track ID, the artist who performed the track, the album name, the track name, the popularity of the track, the duration of the song, if it is explicit or not, how danceable it is, it's energy level, the key of the song, the loudness, the mode (either major or minor), speechiness, acousticness, instrumentalness, liveness, valence, tempo, time signature, and genre. We are narrowing our data set to only include songs in the top 25% of popularity.

Goal of Project: Our goal is to create visualizations comparing the danceability variable to several other variables to see which variables have the highest correlation to danceability, and therefore what makes a song danceable.

Members duty:

Riley – Create visualization comparing danceability to energy and create slides for my graph and its description. Energy is measured on a scale from 0.0 - 1.0 and represents a measure of intensity and activity. A track with high energy feels fast and loud.

Lucy – compare danceability to speechiness: "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" (Data set description) and make the slides to share this data.

Emma- Create a graph showing the relationship between danceability and genre and display results on a PowerPoint slide

Napoleon – Comparing danceability to tempo: the beats per minute (BPM) or speed/pace of a given piece. Tempo is measured directly from the average duration of the beat. Thus, the higher BPM value, the faster the piece will sound.

Brianna- compare danceability to popularity of the track. Using x-axis as danceability, y-axis as popularity, and then using color or shape and a legend to distinguish which artist

the song came from. First, I will compare danceability to popularity and see if there is a direct relationship between the two and visualize that. Then I will check how artists play a role in the popularity and if that is more significant than danceability.