**Project Team 7: Kickin’ It Old School!**

**Identifying Popular Musicians: Old School and New School Rankings**

**DATA SOURCES & VARIABLES:**

* 2019 Top 100 Artists Charts from Billboard Charts (pulled .csv data source)
  + Artist name and rank on Billboard Charts
  + **Billboard Charts Top Artists** =Radio Airplay + Sales Data + Streaming Data; Artists receive a ranking of 1 through 100, with 1 as the highest value
* Spotify API (pulled API data source)
  + Artist name, popularity ranking, number of followers, defined genres
  + **Spotify Popularity** = The artist’s popularity is calculated from the popularity of all the artist’s tracks. Artists receive a value will be between 0 and 100, with 100 being the most popular.
  + **Spotify Followers =** Number of listeners who hit follow or ❤ on your artist profile.

**RESEARCH QUESTIONS:**

* ***What are the most popular musical genres among the top 100 Billboard artists?***
  + Spotify has so many genres and sub-genres beyond typical categories like rock and pop. For example, categories within rap even include regional rap styles such as Atlanta Rap and Dallas Rap.
  + Among the Top 100 Billboard Artists from 2019, there were 91 unique combinations of genre tags. Once parsed using the AST Library, pop and rap were the most common genres with over 30 occurrences each.
* ***Among the top 100 artists, what are the average popularity rankings and followers as measured through Spotify?***
  + The Top 100 Billboard artists of 2019 had an average Spotify popularity rating of 86 and an average of approximately 11 million followers. Given that the Billboard ranks are of top artists, it is not surprising that Spotify popularity ranks from 71-100 for these individuals. There was much greater variety however in the number of followers for these top 100 Billboard artists, ranging from hundreds of thousands to millions!
  + When grouped by top 10 and bottom 10 Billboard Artists in the 2019 100 Top Artists list, we see that some artists from both groups appear to be the most popular via Spotify. For example, Drake who is ranked 5 on the Billboard charts has a rating of 100 on Spotify and first in popularity. Conversely, The Weeknd is ranked 97 on the billboard charts, yet has a rating of 96 on Spotify and is 7th best in popularity. Similarly, when exploring followers, Ed Sheeran who is ranked 7 on the Billboard charts has 71 million followers as the most followed artist. However, Justin Beiber who is ranked 75 on the Billboard charts is the 4th most followed artist via Spotify with 39 million followers.
* ***Is there a relationship between Billboard rankings and popularity rankings in Spotify? Followers?*** 
  + Billboard Rankings vs. Spotify Popularity
    - When grouping by Billboard Rankings (by 20 artists in each group), the average Spotify popularity rankings increase slightly as individuals gain in popularity on the Billboard charts. There is a moderately positive correlation between these two variables at 0.49.
  + Billboard Rankings vs. Spotify Followers
    - When grouping by amount of Spotify Followers (by 5 million in each group), the mean billboard rankings vary greatly based on number of followers. This is more clearly displayed in the scatterplot, where data is heavily skewed to the left with less than 2 million followers, but with a number of outliers. There is a moderately positive correlation between these two variables at 0.43.

**CONCLUSIONS:**

* While Billboard Ranks and Spotify Popularity Ratings account for slightly different measures in their composition (e.g. radio+sales+digital for Billboard), they are moderately correlated.
* Billboard Ranks and Spotify Follower numbers have greater variation than trends in Spotify Popularity. This might be impacted by the age of Spotify users who are likely to use this “follower” feature and an area for future research.
* Among the top 100 Billboard Artists of 2019, artists belonging to pop and rap genres are highly represented. There are a number of different genre sub-types in Spotify that warrant further exploration.