# **Repetition in Lyrics**

## Goals

The purpose of this assignment is to learn to

- 1. Access lyrics data through BRIDGES.
- 2. Manipulate a ColorGrid object.
- 3. Show repetition patterns in songs.

You will generate a visualization that looks like <u>that</u>!



# **Programming part**

#### Task

In this assignment, the objective is to pull a song from Bridges, split the lyrics into individual words, and compare each word against every other word to check for repetition.

From these lyrics, you will be building a matrix, or a ColorGrid in this case, where every row and every column represents a sequential word in the song's lyrics.

Upon finding repetition, you will be setting the pixel at that location to a color of your choice at that point in the grid.

#### Basic

- 1. Open your scaffolded code.
- 2. Plug in your credentials.
- 3. Complete the TODO's.
- 4. Run and visualize the code.

## **Build a ColorGrid**

- 1. Plug in your credentials.
- 2. Think of any song which contains words.
- 3. Query Bridges for said Song. For example

```
in Java
Song mySong = Bridges.getSong("My Favorite Song", "Optional Artist String");
String lyrics = mySong.getLyrics();
in C++
Song mySong = DataSource::getSong("My Favorite Song", "Optional Artist String");
auto lyrics = mySong.getLyrics();
in Python
```

```
so = get_song("My Favorite Song", "Optional Artist String")
song = so.get_lyrics()
```

- 4. Pass these lyrics through the provided helper function, which will clean up and split the lyrics into an array of squeaky clean Strings.
- 5. Initialize a ColorGrid with the dimensions the size of the array returned from the helper function.
- 6. Iterate over the split lyrics array, checking to see if there is any repetition. For example, if word 1 is the same as the word 6, you would color the pixel at (1, 6), and later on at (6, 1).
- 7. After filling out your grid, set it as the data structure on your Bridges object, and run the code.

### Help

#### for Java

ColorGrid documentation

Color documentation

DataSource documentation

Song documentation

Bridges class documentation

for C++

ColorGrid documentation

Color documentation

Song documentation

**DataSource documentation** 

#### **For Python**

Bridges documentation

Color documentation

ColorGrid documentation

Song documentation