**Requirements**

 Use Pandas to clean and format your data set(s)

Who? Group effort

 Create a Jupyter Notebook describing the **data exploration and cleanup** process

Who? Amber/Steve

 Create a Jupyter Notebook illustrating the **final data analysis**

Who? **Christian/Ishmael**

 Use Matplotlib (or other Python plotting and graph library) to create at least 6-8 visualizations of your data (ideally, at least 2 per "question" you ask of your data)

Who? Group effort (outlined below)

 Save images of your visualizations (png or svg) to include in a markdown document that communicates the findings of your project (and to distribute to the class and instructional team), and for inclusion in your presentation = Read Me document and Presentation

Who? Amber

 Use at least one API, (assuming you can find an API with data pertinent to your primary research questions)

Who? Steve

 Create a write-up summarizing your major findings. This should include a heading for each "question" you asked of your data, and under each heading, a short description of what you found and any relevant plots. This should be continually updated as part of your repository's readme.md file.

Who? Amber

 Use at least one statistical test to accept or reject a hypothesis described in your project objective

Who? Steve?

**IDEAS**

- Top 10 countries by listener average – Amber

Type of chart: bar

- Top 10 countries by listener average- Amber

Type of chart: Stacked bar

Top 20 artists by count of countries- Ishmael

Type of chart: line

- 5 top artists globally by sum of playcounts- Ishamel

Type of chart: Pie

Top artist and the avg listeners by country (can we do another relationship???)- Christian

Type of chart: Scatter

Top 5 artist per country (geomap with click action)- Christian

Type of visualization: Geo map

Top 5 artist per country - Steve

Type of visualization: geomap with click action)- group effort

**Hypothesis**

The relationship of Avg number of listeners by genre and country and possibly (GDP)?

\*\*What do we think will happen?\*\*

(Creates null and alternative Hypothesis)

Type of analysis: Statistical