**FINAL PROJECT PLAN QUESTIONS**

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1. **Explain your project plan in 1-2 sentences. Consider: What data are you going to use? Are you going to get any input from a user -- if so, what input? What will a user need to do to run the project? What should be the result of the project? What will someone who runs the project learn from it?**

 My plan is to take api from iTunes and api from Spotify and merge them together. I am curious to whether there is a difference in rankings between the two sites. I also will take data on plays (for Spotify) and downloads (for iTunes) and combine the two seeing which has more. Obviously downloads will be less than plays, but I will have metric for computing average for each song.

2**. What is one online data source you plan to use for your project? Provide a link to the API documentation. Does it require special authentication like a developer key? If so, have you acquired one yet? Does it use oauth?**

 iTunes we have done in class and mine will be similar. I do not believe I need an oauth or developer key.

<https://affiliate.itunes.apple.com/resources/documentation/itunes-store-web-service-search-api/>

3. **What is the second data source you plan to use for your project? If an API: provide a link to the API documentation. Does it require special authentication like a developer key? If so, have you acquired one yet? Does it use oauth? If it is not an API: where will you get it? What will you use it for?**

For Spotify it is a little more confusing. I do need an authentication and an ouauth. I am in the process of getting both. Since I already have Spotify premium it should be rather easy.

https://developer.spotify.com/web-api/authorization-guide/

4.**What modules will you need to import for your project?**

 import requests

import json

I believe from other research this as well :

from base64 import b64encode

5.**Describe one class you will define for your project. You should answer the following questions in your answer:**

**- What will be the name of the class?**

**- What does one instance of the class represent?**

**- What data must be passed in to the constructor to create an instance of the class?**

**- What are at least 2 instance variables the class will have, and what do they represent?**

**- What are at least 2 methods, besides the \_\_init\_\_ method, that the class will have, and what will they do?**

**You may also want to think about: will the class have any class variables? what should the printed representation of the class look like?**

 The class that I will use will be get all the information per one song. It will be called Song. The instances and variables will be the following: self.iTunes.ranking = 0, self.spotify.ranking = 0, self.downloads = 0, self.plays = 0, self.title = song\_title. The most basic is the “title” instance and “self.tite” variable where the song title will be stored. I must have data that orders the ranking for both spotify and iTunes. One method will be the get\_avg\_ranking, which will combine the ranking of both spotify and iTunes. I will also have a get\_metric method, which the formula to get plays and downloads will be extracted from.

**6. What data might you be sorting in your project? (Remember that you must use a non-trivial sort -- if it doesn't matter whether or not the data is sorted and you'd get the same answer, that will not get credit, and you must use a key parameter in at least one sorting operation.)  For example, "I could sort Facebook users by the users' average length of posts on the user's timeline."**

 I will be sorting the metric scores in a function and then the average ranking scores.

7. **Why do you think this project is a useful or interesting thing to make?**

I am very curious to see discrepancies between the two sites. By knowing which songs are more popular on which sites, one can make assumptions about the audiences of each. I also am curious to how this effects artist such as Taylor Swift and Kanye West who have chosen to not put their music on both sites.