I210 Turn-In Sheet: Mastery Project 2

*Fill in the sheet anywhere there is a yellow arrow! This is IN ADDITION to your Python file.*

**→ Your name:***Rohan Tyagi*

For this assignment, please submit:

1. **This “turn in” worksheet** *(completed - required)*
2. Your **main file,** named **MP2\_Solution.py**
3. Your **module,** named **my\_mod.py**

**Part 1** (4 pts)

**→ What Python module did you use to read in the data?***I used the CSV module to read in the data. The csv.DictReader allowed me to read the contents of the CSV file into dictionaries, making the data a lot easier to work with.*

**→ What data type is the Spotify data you loaded?** *The data type we loaded in is a CSV (Comma Separated Values), a data type used primarily for storing tabular data. Within this csv, we can find various types of data such as floats, strings, and integers. Using Dict.Reader and the rest of this function, we were able to create a list of dictionaries, with every row of data being stored as its own dictionary.*

**→ Describe how you identified duplicate track names.** *As my code runs through each row in the dataset, the list, trackNameList, stores unique track names by constantly checking if the current track name already exists within trackNameList. If the track is unique, then that entire row is appended to cleanedData list. trackNameList serves as a filter, helping me ensure that no duplicate rows find its way into the cleanedData list.*

**Part 2** (4 pts)

**→ What sorting algorithm did you use to sort the data?***Selection Sort*

**→ How did you transform (change) the data in track\_analysis() so you could pass it to table\_print()?** *I used list comprehension to create a nested list containing the track\_name, artist\_name, and the specific feature the user is looking for. The list comprehension I used iterates through each row. When going through each row, a new list is created containing the previously mentioned elements. After doing this, the new list, trackInfo, is in a form suitable to be passed through the table\_print function, as each list within trackInfo contains the exact number of elements table\_print was designed to handle.*

**→ What approach did you take to formatting the output in a table?** *I was greatly assisted by the 18.3 exercise we did in class. I used formatted strings to create a table. This function begins with defining a template with three placeholders. Later in the function, the placeholders are replaced with the actual data, with the headers being separated from the rest of the data by vertical dashes. The width of the table allows for the adjustment of the table.*

**Part 3** (2 pts)

**→ Your main should be minimal -- most of the code should reside in the functions in the module -- briefly explain how you decided what code to put into your main file.***I kept things simple by using the main file to store code relating to user interactions. The main file serves as the “front” of this program. Most of the code in the main file are simple print and conditional statements, with the most complex code being the instances where the functions from my\_mod are being called. I was able to decide which code went where by asking myself a simple question “Is this code user oriented or data oriented?” If the code I was writing was more user oriented (i.e. asking the user for inputs), then I would add it to the main file. If the code I was writing was more data oriented (i.e. taking data from the csv, sorting it, and presenting it) then I would add it to my\_mod. Doing this made the whole project experience easier as it made keeping track of the two main aspects of this project a lot easier. When it came time to debugging, I didn’t have to spend unnecessary time searching for the mistake, I was able to figure it out easily. Testing was also a lot easier.*

**Bonus** (Optional)

**→ How did you calculate the average energy score for an artist?** *I created a list storing all of that specific artist’s energy score and wrote a simple function to calculate the energy score.*

**→ How did you calculate the overall average energy score?** *Similar to the first question, I made a list composed of all the energy scores and wrote a function to calculate the average energy score.*

**→ Which piece of information did you find most challenging to get?** *Getting the genres was very challenging.*