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Section 1: Overview and Summary of the Project

My project uses a 339 line program that has the user make a few choices and gives an informative output.

- First, the user must select a genre based off of the options given (Rock, Pop, Disco or Country).
- Then, based off of the genre choice, the user must select a song out of five options within that chosen genre.
- After selecting the song, the program opens and reads a file that contains information about the song and three suggestions based on the choice.
- Finally, the program asks if the user would like to see the lyrics for the song. If they select yes, LyricGenius generates the lyrics to that song. If they select no, the program outputs "Okay."
- Any input that does not match up with an option, returns "This input is invalid".

At the end of this report, I will include photos of my program, as well as the user interface and a sample input/output

Section 2: Target Audience

My program is very useful for anybody who wants to learn more about music or get the lyrics for popular songs. The output information is very useful in learning about a given song, and the suggestions are good at showing similar works to the one chosen. Additionally, the program is also good for anyone who wants to see the lyrics to one of the option songs, as it gives the user an option to see them.

Section 3: Specific Programming Technique Used

One piece of my program that was very crucial was the LyricGenius library. The library was very crucial in generating the lyrics for each of the songs, without having to write all of them out. If the user chooses the yes option once they encounter the third choice (To see the lyrics or not), the LyricGenius library will find the lyrics based off of my imputed song title and artist.

Additionally, my program used Python techniques we learned in class. The program used multiple different self-created functions. I used separate functions for each song choice within each genre, as well as the choice to choose which genre the user would like to see. Within each function, my program relied heavily on if-elif-else statements.

Within the function artist(), I had an if-elif-else statement for each genre. Depending on the genre chosen, the program returned the corresponding genre function (rock(), pop(), disco(), country()). Within each of the genre functions, I had an if-elif-else statement that corresponded

to each song choice. Finally, I had an additional if-elif-else statement within each song choice that allowed the user to choose if they would like to see the lyrics or not.

Additionally, I used many strings, inputs and files within my program. The strings helped explain the different instructions for the programs. The inputs helped define a decision that would allow for the program to know how each choice corresponds. As for the files, they contained the information about the song, and were read within each if-elif-else statement for each song. Upon choosing a song, the corresponding file is read.

Section 4: Challenges

I encountered some challenges when developing my program. The program was very long and contained a lot of moving parts. Due to this, it was very delicate and required a lot of precision when looking at syntax and indentation. Additionally, I was dealing with some foreign devices that I had to teach myself as I went along. First of all, I had to import and learn LyricsGenius, as it was a big part of my program. It took a bit to learn the different uses of the library and how to call them. Once I learned them through trial and error (as well as the internet) , I found the library to be very useful in helping me reach the goal of my program.

Additionally, it was a bit difficult to coordinate new if-elif-else statements within each existing if-elif-else statement. It was better to create independent functions for the genre choice and each song choice, but that made little sense for the lyrics choice. Due to that, I had to create a new if-elif-else statement to choose whether the user wants the lyrics or not within the if-elif-else statement to choose which song they would like to see. It ended up being the best path to achieve my goal, but it was definitely tedious and difficult to coordinate the syntax and wording in the beginning.

Section 5: Future Extensions

I think there is infinite room for future expansion regarding my program. Since I had limited time to complete the program, I did not have enough time to create a vast musical library. It took me a lot of time to write out a file for each song, filled with the information. Additionally, it took me a lot of time to learn how to search for the lyrics to each song. Due to this, my program only contains 4 genres and 20 songs. Though that may not seem like much, the program took up 349 lines of code.

If I had more time to edit the program, I would try to add many more genres and songs. Additionally, I would add more information to the files for each song. By doing this, I could create an even more useful program that ranges further and appeals to more musical genres. This would allow for an even better experience.

If I could research even more and devote a large amount of time to the project, I would try to learn how to use LyricsGenius and have the user input the song. It would be very difficult, as I would have to somehow find a way to provide information and suggestions based on every song ever made. Though it would be very hard to try and transition my program from a choice library to an infinite library, that would probably be the end goal of this program.

Photos

Below I will attach various photos of my program as well as sample inputs/outputs:

```
1 #This program gives information about musical artists and their songs
2 #It then suggests songs based off of user choices
3 import lyricsgenius
4 genius = lyricsgenius.Genius("BAszG0gQASyWG-uVXz6IYbafTy8oGP5JZfTicnv7eXymXwX3guIdpXhr8QcbmUbR")
5 def rock():
6     print("")
7     print("Choose a song to view info, suggestions and lyrics:")
8     print("")
9     print("Choose 1 for Stairway to Heaven")
10    print("Choose 2 for Smells like Teen Spirit")
11    print("Choose 3 for Baba O'Riley")
12    print("Choose 4 for Sweet Home Alabama")
13    print("Choose 5 for Enter Sandman")
14    print("")
15    rch = int(input("Enter the number that corresponds to your choice:"))
16    if rch == 1:
17        print("")
18        f = open("Rock_Stairway_to_Heaven .txt", "r")
19        print(f.read())
20        print("Would you like to see the lyrics to this song?")
21        lch = int(input("Type 1 for Yes or 2 for No:"))
22        if lch == 1:
23            song = genius.search_song("Stairway to Heaven", "Led Zeppelin")
24            print(song.lyrics)
25        elif lch == 2:
26            print("Okay.")
27        else:
28            print("This input is invalid.")
29    elif rch == 2:
30        print("")
31        f = open("Rock_Smells_Like_Teen_Spirit.txt", "r")
32        print(f.read())
33        print("Would you like to see the lyrics to this song?")
34        lch = int(input("Type 1 for Yes or 2 for No:"))
35        if lch == 1:
36            song = genius.search_song("Smells Like Teen Spirit", "Nirvana")
37            print(song.lyrics)
38        elif lch == 2:
39            print("Okay.")
40        else:
41            print("This input is invalid.")
42    elif rch == 3:
43        print("")
44        f = open("Rock_Baba_O'Riley.txt", "r")
45        print(f.read())
46        print("Would you like to see the lyrics to this song?")
47        lch = int(input("Type 1 for Yes or 2 for No:"))
48        if lch == 1:
49            song = genius.search_song("Baba O'Riley", "The Who")
50            print(song.lyrics)
51        elif lch == 2:
52            print("Okay.")
53        else:
54            print("This input is invalid.")
55    elif rch == 4:
56        print("")
57        f = open("Rock_Sweet_Home_Alabama.txt", "r")
58        print(f.read())
```

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59     print("Would you like to see the lyrics to this song?")
60     lch = int(input("Type 1 for Yes or 2 for No:"))
61     if lch == 1:
62         song = genius.search_song("Sweet Home Alabama", "Lynyrd Skynyrd")
63         print(song.lyrics)
64     elif lch == 2:
65         print("Okay.")
66     else:
67         print("This input is invalid.")
68 elif rch == 5:
69     print("")
70     f = open("Rock_Enter_Sandman.txt", "r")
71     print(f.read())
72     print("Would you like to see the lyrics to this song?")
73     lch = int(input("Type 1 for Yes or 2 for No:"))
74     if lch == 1:
75         song = genius.search_song("Enter Sandman", "Metallica")
76         print(song.lyrics)
77     elif lch == 2:
78         print("Okay.")
79     else:
80         print("This input is invalid.")
81 else:
82     print("This entry is invalid")
83 def pop():
84     print("")
85     print("Choose a song to view info, suggestions and lyrics:")
86     print("")
87     print("Choose 1 for Thriller")
88     print("Choose 2 for Raspberry Beret")
89     print("Choose 3 for Rolling in the Deep")
90     print("Choose 4 for I Want it That Way")
91     print("Choose 5 for Uptown Funk")
92     print("")
93     pch = int(input("Enter the number that corresponds to your choice:"))
94     if pch == 1:
95         print("")
96         f = open("Pop_Thriller.txt", "r")
97         print(f.read())
98         print("Would you like to see the lyrics to this song?")
99         lch = int(input("Type 1 for Yes or 2 for No:"))
100        if lch == 1:
101            song = genius.search_song("Thriller", "Michael Jackson")
102            print(song.lyrics)
103        elif lch == 2:
104            print("Okay.")
105        else:
106            print("This input is invalid.")
107    elif pch == 2:
108        print("")
109        f = open("Pop_Raspberry_Beret.txt", "r")
110        print(f.read())
111        print("Would you like to see the lyrics to this song?")
112        lch = int(input("Type 1 for Yes or 2 for No:"))
113        if lch == 1:
114            song = genius.search_song("Raspberry Beret", "Prince")
115            print(song.lyrics)
116        elif lch == 2:

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117         print("Okay.")
118     else:
119         print("This input is invalid.")
120 elif pch == 3:
121     print("")
122     f = open("Pop_Rolling_In_The_Deep.txt", "r")
123     print(f.read())
124     print("Would you like to see the lyrics to this song?")
125     lch = int(input("Type 1 for Yes or 2 for No:"))
126     if lch == 1:
127         song = genius.search_song("Rolling in the Deep", "Adele")
128         print(song.lyrics)
129     elif lch == 2:
130         print("Okay.")
131     else:
132         print("This input is invalid.")
133 elif pch == 4:
134     print("")
135     f = open("Pop_I_Want_It_That_Way.txt", "r")
136     print(f.read())
137     print("Would you like to see the lyrics to this song?")
138     lch = int(input("Type 1 for Yes or 2 for No:"))
139     if lch == 1:
140         song = genius.search_song("I Want It That Way", "Backstreet Boys")
141         print(song.lyrics)
142     elif lch == 2:
143         print("Okay.")
144     else:
145         print("This input is invalid.")
146 elif pch == 5:
147     print("")
148     f = open("Pop_Uptown_Funk.txt", "r")
149     print(f.read())
150     print("Would you like to see the lyrics to this song?")
151     lch = int(input("Type 1 for Yes or 2 for No:"))
152     if lch == 1:
153         song = genius.search_song("Uptown Funk", "Bruno Mars")
154         print(song.lyrics)
155     elif lch == 2:
156         print("Okay.")
157     else:
158         print("This input is invalid.")
159 else:
160     print("This entry is invalid")
161 def disco():
162     print("")
163     print("Choose a song to view info, suggestions and lyrics:")
164     print("")
165     print("Choose 1 for Y.M.C.A")
166     print("Choose 2 for Night Fever")
167     print("Choose 3 for I Will Survive")
168     print("Choose 4 for Funkytown")
169     print("Choose 5 for It's Raining Men")
170     print("")
171     rach = int(input("Enter the number that corresponds to your choice:"))
172     if rach == 1:
173         print("")
174         f = open("Disco_YMCA.txt", "r")

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175         print(f.read())
176         print("Would you like to see the lyrics to this song?")
177         lch = int(input("Type 1 for Yes or 2 for No:"))
178         if lch == 1:
179             song = genius.search_song("Y.M.C.A", "Village People")
180             print(song.lyrics)
181         elif lch == 2:
182             print("Okay.")
183         else:
184             print("This input is invalid.")
185     elif rach == 2:
186         print("")
187         f = open("Disco_Night_Fever.txt", "r")
188         print(f.read())
189         print("Would you like to see the lyrics to this song?")
190         lch = int(input("Type 1 for Yes or 2 for No:"))
191         if lch == 1:
192             song = genius.search_song("Night Fever", "Bee Gees")
193             print(song.lyrics)
194         elif lch == 2:
195             print("Okay.")
196         else:
197             print("This input is invalid.")
198     elif rach == 3:
199         print("")
200         f = open("Disco_I_Will_Survive.txt", "r")
201         print(f.read())
202         print("Would you like to see the lyrics to this song?")
203         lch = int(input("Type 1 for Yes or 2 for No:"))
204         if lch == 1:
205             song = genius.search_song("I Will Survive", "Gloria Gaynor")
206             print(song.lyrics)
207         elif lch == 2:
208             print("Okay.")
209         else:
210             print("This input is invalid.")
211     elif rach == 4:
212         print("")
213         f = open("Disco_Funkytown.txt", "r")
214         print(f.read())
215         print("Would you like to see the lyrics to this song?")
216         lch = int(input("Type 1 for Yes or 2 for No:"))
217         if lch == 1:
218             song = genius.search_song("Funkytown", "Lipps Inc.")
219             print(song.lyrics)
220         elif lch == 2:
221             print("Okay.")
222         else:
223             print("This input is invalid.")
224     elif rach == 5:
225         print("")
226         f = open("Disco_Its_Raining_Men.txt", "r")
227         print(f.read())
228         print("Would you like to see the lyrics to this song?")
229         lch = int(input("Type 1 for Yes or 2 for No:"))
230         if lch == 1:
231             song = genius.search_song("Its Raining Men", "The Weather Girls")
232             print(song.lyrics)

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232         print(song.lyrics)
233     elif lch == 2:
234         print("Okay.")
235     else:
236         print("This input is invalid.")
237 else:
238     print("This entry is invalid")
239 def country():
240     print("")
241     print("Choose a song to view info, suggestions and lyrics:")
242     print("")
243     print("Choose 1 for The Gambler")
244     print("Choose 2 for The Devil Went Down to Georgia")
245     print("Choose 3 for Chicken Fried")
246     print("Choose 4 for Jolene")
247     print("Choose 5 for I Walk the Line")
248     print("")
249     coch = int(input("Enter the number that corresponds to your choice:"))
250     if coch == 1:
251         print("")
252         f = open("DCountry_The_Gambler.txt", "r")
253         print(f.read())
254         print("Would you like to see the lyrics to this song?")
255         lch = int(input("Type 1 for Yes or 2 for No:"))
256         if lch == 1:
257             song = genius.search_song("The Gambler", "Kenny Rogers")
258             print(song.lyrics)
259         elif lch == 2:
260             print("Okay.")
261         else:
262             print("This input is invalid.")
263     elif coch == 2:
264         print("")
265         f = open("DCountry_The_Devil_Went_Down_to_Georgia.txt", "r")
266         print(f.read())
267         print("Would you like to see the lyrics to this song?")
268         lch = int(input("Type 1 for Yes or 2 for No:"))
269         if lch == 1:
270             song = genius.search_song("The Devil Went Down to Georgia", "Charlie Daniels Band")
271             print(song.lyrics)
272         elif lch == 2:
273             print("Okay.")
274         else:
275             print("This input is invalid.")
276     elif coch == 3:
277         print("")
278         f = open("DCountry_Chicken_Fried.txt", "r")
279         print(f.read())
280         print("Would you like to see the lyrics to this song?")
281         lch = int(input("Type 1 for Yes or 2 for No:"))
282         if lch == 1:
283             song = genius.search_song("Chicken Fried", "Zac Brown Band")
284             print(song.lyrics)
285         elif lch == 2:
286             print("Okay.")
287         else:
288             print("This input is invalid.")
289     elif coch == 4:

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290     print("")
291     f = open("DCountry_Jolene.txt", "r")
292     print(f.read())
293     print("Would you like to see the lyrics to this song?")
294     lch = int(input("Type 1 for Yes or 2 for No:"))
295     if lch == 1:
296         song = genius.search_song("Jolene", "Dolly Parton")
297         print(song.lyrics)
298     elif lch == 2:
299         print("Okay.")
300     else:
301         print("This input is invalid.")
302 elif coch == 5:
303     print("")
304     f = open("DCountry_I_Walk_the_Line.txt", "r")
305     print(f.read())
306     print("Would you like to see the lyrics to this song?")
307     lch = int(input("Type 1 for Yes or 2 for No:"))
308     if lch == 1:
309         song = genius.search_song("I Walk the Line", "Johnny Cash")
310         print(song.lyrics)
311     elif lch == 2:
312         print("Okay.")
313     else:
314         print("This input is invalid.")
315 else:
316     print("This entry is invalid")
317 def artist():
318     print("")
319     print("Pick a music genre:")
320     print("")
321     print("Enter 1 for Rock")
322     print("Enter 2 for Pop")
323     print("Enter 3 for Disco")
324     print("Enter 4 for Country")
325     gch = int(input("Enter the number that corresponds to your choice:"))
326     if gch == 1:
327         return rock()
328     elif gch == 2:
329         return pop()
330     elif gch == 3:
331         return disco()
332     elif gch == 4:
333         return country()
334     else:
335         print("This entry is invalid")
336 def main():
337     print("This program allows you to pick a song from our library")
338     print("And see information, lyrics and reccomendations")
339     return artist()
340 main()

```


This program allows you to pick a song from our library
And see information, lyrics and recommendations

Pick a music genre:

Enter 1 for Rock

Enter 2 for Pop

Enter 3 for Disco

Enter 4 for Country

Enter the number that corresponds to your choice:2

Choose a song to view info, suggestions and lyrics:

Choose 1 for Thriller

Choose 2 for Raspberry Beret

Choose 3 for Rolling in the Deep

Choose 4 for I Want it That Way

Choose 5 for Uptown Funk

Enter the number that corresponds to your choice:3

Name: Rolling in the Deep

Release Date: November 29, 2010

Artist: Adele

Album: 21

Length: 3:48

Suggestions based off of this song:

- Hello by Adele

- Somebody That I Used to Know by Gotye

- Skyfall by Adele

Would you like to see the lyrics to this song?

Type 1 for Yes or 2 for No:|

Would you like to see the lyrics to this song?

Type 1 for Yes or 2 for No:1

Searching for "Rolling in the Deep" by Adele...

Done.

[Verse 1]

There's a fire starting in my heart
Reaching a fever pitch, and it's bringing me out the dark
Finally, I can see you crystal clear
Go ahead and sell me out, and I'll lay your shit bare
See how I'll leave with every piece of you
Don't underestimate the things that I will do
There's a fire starting in my heart
Reaching a fever pitch, and it's bringing me out the dark

[Pre-Chorus]

The scars of your love remind me of us
They keep me thinkin' that we almost had it all
The scars of your love, they leave me breathless
I can't help feeling

[Chorus]

We could've had it all
(You're gonna wish you never had met me)
Rolling in the deep
(Tears are gonna fall, rolling in the deep)
You had my heart inside of your hand
(You're gonna wish you never had met me)
And you played it to the beat
(Tears are gonna fall, rolling in the deep)

[Verse 2]

Baby, I have no story to be told
But I've heard one on you, now I'm gonna make your head burn
Think of me in the depths of your despair
Make a home down there, as mine sure won't be shared

[Pre-Chorus]

(You're gonna wish you never had met me)
The scars of your love remind me of us
(Tears are gonna fall, rolling in the deep)
They keep me thinkin' that we almost had it all
(You're gonna wish you never had met me)
The scars of your love, they leave me breathless
(Tears are gonna fall, rolling in the deep)
I can't help feeling

[Chorus]

We could've had it all
(You're gonna wish you never had met me)
Rolling in the deep
(Tears are gonna fall, rolling in the deep)
You had my heart inside of your hand
(You're gonna wish you never had met me)
And you played it to the beat
(Tears are gonna fall, rolling in the deep)
Could've had it all
Rolling in the deep