

PROJECT REPORT

ON

APPLE MUSIC MANAGEMENT SYSTEM

[PART OF THE COMPUTER SCIENCE COURSE (083)]



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ACKNOWLEDGEMENT

WE UNDERTOOK THIS PROJECT AS A PART OF CLASS 12TH COMPUTER SCIENCE COURSE. WE HAD TRIED TO APPLY OUR BEST KNOWLEDGE AND EXPERIENCE, GAINED DURING THE STUDY AND CLASSWORK EXPERIENCE. HOWEVER, DEVELOPING SOFTWARE SYSTEM IS GENERALLY A QUITE COMPLEX AND TIME-CONSUMING PROCESS. IT REQUIRES A SYSTEMATIC STUDY, INSIGHT VISION AND PROFESSIONAL APPROACH DURING THE DESIGN AND DEVELOPMENT. MOREOVER, THE DEVELOPER ALWAYS FEELS THE NEED, THE HELP AND GOOD WISHES OF THE PEOPLE NEAR YOU, WHO HAVE CONSIDERABLE EXPERIENCE AND IDEA.

WE WOULD LIKE TO TAKE THIS OPPORTUNITY TO EXTEND OUR SINCERE GRATITUDE TO OUR TEACHER MR. RAJESH SETHI AND OUR PARENTS FOR BEING THE SOURCE OF INSPIRATION AND PROVIDING TIME AND FREEDOM TO DEVELOP THE SOFTWARE PROJECT. WE ALSO FEEL INDEBTED TO EACH OTHER FOR VALUABLE SUGGESTIONS DURING THIS PROJECT WORK.

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INTRODUCTION

Originally, strictly a music service, Apple Music began expanding into videos in 2016. Executive Jimmy Iovine has stated that the intention for the service is to become a "cultural platform", and Apple reportedly wants the service to be a "one-stop shop for pop culture". The company is actively investing heavily in the production and purchasing of video content, both in terms of music videos and concert footage that support music releases, as well as web series and feature films.

**Stream Over 50 Songs Ad-Free.
Download Your
Favourite Tracks.
Play Them Offline.
Get Exclusive Playlists
and Exploring Options.
Listen Across all
of Your Devices.**

THIS SOFTWARE PROJECT IS DEVELOPED TO AUTOMATE THE FUNCTIONALITIES OF A USER FRIENDLY APPLE MUSIC DATABASE. THE PURPOSE OF THIS SOFTWARE PROJECT IS TO WRITE A PROGRAM WHICH PROVIDES A USER FRIENDLY INTERFACE TO EXPLORE SONGS FROM APPLE MUSIC. THE PROGRAM MAINLY BRINGS FORTH THE USAGE OF PYTHON PROGRAMMING ALONG WITH DATABASE MANAGEMENT SYSTEM OF MYSQL. THE PROGRAM WAS MADE TO WORK OVER A NETWORK AND PROVIDE UNLIMITED WAYS OF INTERACTION BETWEEN THE USER AND THE STORE, SOME OF WHICH ARE DEMONSTRATED IN THIS PROJECT IN THE FORM OF THE OUTPUT.

THE MYSQL DATABASE MAINLY CONSISTS OF THE TRACK NAME, ARTIST NAME, LENGTH OF THE SONG, ENERGY, BEATS PER MINUTE, DANCEABILITY, LIVENESS, AND POPULARITY. PYTHON PROGRAM WORKS TO CONNECT WITH THE MYSQL DATABASE TO GIVE THE USER THE ABILITY TO FILTER OUT SPECIFIC SONGS (ON THE BASIS OF ARTISTS, TRACKS ETC.) OR TO MAKE PLAYLISTS (ADD, DELETE, SEARCH) AS PER THEIR NEEDS.

SYSTEM IMPLEMENTATION

The Hardware Used:

- Apple MacBook Pro
- Apple MacBook Air

The Softwares Used:

- Macintosh as an Operating System
- Atom Editor as Front-End Development Environment
- MySQL as Back-End Sever with Database for Testing.
- Apple Pages for Documentation

DATABASE

DATABASE NAME: PROJECT

TABLE NAME: SONGS

SNo	Track_Name	Artist_Name	Genre	BPM	Energy	Danceability	Liveness	Length	Popularity
1	Señorita	Shawn Mendes	canadian pop	117	55	76	8	191	79
2	China	Anuel AA	reggaeton flow	185	81	79	8	302	92
3	boyfriend	Ariana Grande	dance pop	190	80	40	16	186	85
4	Beautiful People	Ed Sheeran	pop	93	65	64	8	198	86
5	Goodbyes	Post Malone	dfw rap	158	65	58	11	175	94
6	I Don't Care	Ed Sheeran	pop	182	68	80	9	228	84
7	Ransom	Lil Tecca	trap music	188	64	75	7	131	92
8	How Do You Sleep?	Sam Smith	pop	111	68	48	8	202	98
9	Old Town Road	Lil Nas X	country rap	136	62	88	11	157	87
10	bad guy	Billie Eilish	electropop	135	43	70	18	194	95
11	Callaita	Bad Bunny	reggaeton	176	62	61	24	251	93
12	Loco Contigo	DJ Snake	dance pop	96	71	82	15	185	86
13	Someone You Loved	Lewis Capaldi	pop	118	41	50	11	182	88
14	Otro Trago	Sech	panamanian pop	176	79	73	6	288	87
15	Money In The Grave	Drake	canadian hip hop	181	58	83	12	205	92
16	No Guidance	Chris Brown	dance pop	93	45	70	16	261	82
17	LA CANCIÓN	J Balvin	latin	176	65	75	11	243	98
18	Sunflower	Post Malone	dfw rap	98	48	76	7	158	91
19	Lalala	Y2K	canadian hip hop	138	39	84	14	161	88
20	Truth Hurts	Lizzo	escape room	158	62	72	12	173	91
21	Piece Of Your Heart	MEDUZA	pop house	124	74	68	7	153	91
22	Panini	Lil Nas X	country rap	154	59	78	12	115	91
23	No Me Conoce	Jhay Cortez	reggaeton flow	92	79	81	9	309	83
24	Soltera	Lunay	latin	92	78	80	44	266	91
25	bad guy	Billie Eilish	electropop	135	45	67	12	195	89
26	If I Can't Have You	Shawn Mendes	canadian pop	124	82	69	13	191	70
27	Dance Monkey	Tones and I	australian pop	98	59	82	18	218	83
28	It's You	Ali Gatie	canadian hip hop	96	46	73	19	213	89
29	Con Calma	Daddy Yankee	latin	94	86	74	6	193	91
30	QUE PRETENDES	J Balvin	latin	93	79	64	36	222	89
31	Takeaway	The Chainsmokers	edm	85	51	29	18	218	84
32	7 rings	Ariana Grande	dance pop	148	32	78	9	179	89
33	11 PM	Maluma	reggaeton	96	71	78	9	176	89
34	The London	Young Thug	atl hip hop	98	59	80	13	208	89
35	Never Really Over	Katy Perry	dance pop	180	88	77	32	224	89
36	Summer Days	Martin Garrix	big room	114	72	66	14	164	89
37	Otro Trago	Sech	panamanian pop	176	78	75	11	226	91
38	Antisocial	Ed Sheeran	pop	152	82	72	36	162	87
39	Sucker	Jonas Brothers	boy band	138	73	84	11	181	80
40	Oh No, i'm lonely	Lauv	dance pop	95	56	81	6	199	78
41	Higher Love	Kygo	edm	104	68	69	18	228	88
42	You Need To Calm Down	Taylor Swift	dance pop	85	68	77	7	171	90
43	Shallow	Lady Gaga	dance pop	96	39	57	23	216	87
44	Talk	Khalid	pop	136	40	90	6	198	84
45	Con Altura	ROSALÍA	r&b en espanol	98	69	88	5	162	88
46	One Thing Right	Marshmello	brostep	88	62	66	58	182	88
47	Te Robaré	Nicky Jam	latin	176	75	67	8	202	88
48	Happier	Marshmello	brostep	180	79	69	17	214	88
49	Call You Mine	The Chainsmokers	edm	184	78	59	41	218	88
50	Cross Me	Ed Sheeran	pop	95	79	75	7	206	82

50 rows in set (0.01 sec)

DATABASE NAME: PROJECT

TABLE NAME: PLAYLIST

SNo	Track_Name	Artist_Name	Genre	Length
1	Señorita	Shawn Mendes	canadian pop	191
7	Ransom	Lil Tecca	trap music	131
18	Sunflower	Post Malone	dfw rap	158
31	Takeaway	The Chainsmokers	edm	210
32	7 rings	Ariana Grande	dance pop	179
36	Summer Days	Martin Garrix	big room	164
40	Oh No, i'm lonely	Lauv	dance pop	199

PROGRAM

```
1 from ConnectProject import *
2
3
4
5 def CreatePlaylist():
6     try:
7         Command="create table Playlist(SNo int primary key, Track_Name
... varchar(100) not null, Artist_Name varchar(50) not null, Genre
... varchar(50) not null, Length int not null);"
8         Cur.execute(Command)
9         print("Playlist Created")
10    except:
11        print("Playlist Created!\n")
12
13
14
15 def Search(TableName, FieldName, UserInput):
16    if FieldName=="SNo":
17        Command=f"Select * from {TableName} where {FieldName} =
... {UserInput};"
18        Cur.execute(Command)
19        Record=Cur.fetchone()
20        return Record
21    else:
22        Command=f"Select * from {TableName} where {FieldName} like
... '%{UserInput}%';"
23        Cur.execute(Command)
24        Record=Cur.fetchall()
25        return Record
26
27
28
29 def DisplaySearchForPlaylist(RecordFromSearch):
30     print('='*71)
31
32     TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}
33     "
34     print(TitleRow)
35     print('='*71)
36     Index_SNo={}
37     Index=1
38     for i in RecordFromSearch:
39         Index_SNo[Index]=i[0]
40         R= f"{'Index':^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
41         print(R)
42         Index+=1
43     print('='*71)
44
45     return Index_SNo
```

```
46
47 def AddToPlaylist(Index_SNo):
48     Choice=input("Do you wish to add any song(Y/N)? ").upper()
49
50     if Choice=="N":
51         return
52
53     Choice=int(input("Enter Index of Song: "))
54     IndexToSNo=Index_SNo.get(Choice)
55     if Search('Playlist','SNo',IndexToSNo)==None:
56         Record=Search('Songs','SNo', IndexToSNo)
57         Command=f'Insert into Playlist
58 ... values({Record[0]},{Record[1]},{Record[2]},{Record[3]},{Record[8]})'
59     ;
60         Cur.execute(Command)
61         Conn.commit()
62         print("Song Added to Playlist")
63     else:
64         print("Song Already Exists")
65
66 def ShowAllSongsInPlaylist():
67     Command=f"Select * from Playlist;"
68     Cur.execute(Command)
69     Record=Cur.fetchall()
70     print("*71")
71
72 TitleRow=f'{[{"Index":8}, {"Track_Name":25}, {"Artist_Name":20}, {"Genre":20}]'
73 ...
74     print(TitleRow)
75     print("*71")
76     Index_SNo={}
77     Index=1
78     for i in Record:
79         Index_SNo[Index]=i[0]
80         R= f"[Index:{Index}:{Index+1}:{25}:{i[2]:20}:{i[3]:20}]"
81         print(R)
82         Index+=1
83     print("*71")
84
85
86
87 def DeleteFromPlaylist():
88     Index_SNo=ShowAllSongsInPlaylist()
89     Choice=int(input("Enter Index Number of Song to be Deleted: "))
90     IndexToSNo=Index_SNo.get(Choice)
91     if IndexToSNo!=None:
92         Command=f"Delete from Playlist where SNo={IndexToSNo};"
```

```
93     Cur.execute(Command)
94     Conn.commit()
95     print("Song has been Deleted")
96 else:
97     print("Invalid Option")
98
99
100
101 def SortByPopularity():
102     Command=f"select * from songs order by Popularity desc limit 5;"
103     Cur.execute(Command)
104     Conn.commit()
105     Record=Cur.fetchall()
106     print("*"*71)
107
108     TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}"
109     print(" "*71)
110     Index=1
111
112     for i in Record:
113         R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
114         print(R)
115         Index+=1
116     print("*"*71)
117
118
119 def SortByEnergy():
120     Command=f"select * from songs order by Energy desc limit 5;"
121     Cur.execute(Command)
122     Conn.commit()
123     Record=Cur.fetchall()
124     print("*"*71)
125
126     TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}"
127     print(" "*71)
128     Index=1
129
130     for i in Record:
131         R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
132         print(R)
133         Index+=1
134     print("*"*71)
135
136
137
138 def SortByBPM():
139     Command=f"select * from songs order by BPM desc limit 5;"
```

```
140 Cur.execute(Command)
141 Conn.commit()
142 Record=Cur.fetchall()
143 print("=*71)
144 ...
145 TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}
146 ...
147 print(TitleRow)
148 print("=*71)
149 Index=1
150
151 for i in Record:
152     R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
153     print(R)
154     Index+=1
155
156
157 def SortByDanceability():
158     Command=f"select * from songs order by Danceability desc limit 5;"
159     Cur.execute(Command)
160     Conn.commit()
161     Record=Cur.fetchall()
162     print("=*71)
163 ...
164 TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}
165 ...
166 print(TitleRow)
167 print("=*71)
168 Index=1
169
170 for i in Record:
171     R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
172     print(R)
173     Index+=1
174
175
176 def SearchByTrackName():
177     UserInput=input('Enter desired track name :')
178     Command=f"select * from songs where Track_Name like '%{UserInput}%'"
179     ...
180     order by Track_Name;"
181     Cur.execute(Command)
182     Conn.commit()
183     Record=Cur.fetchall()
184     print("=*71)
185 ...
186 TitleRow=f"{'Index':^8}{'Track_Name':^25}{'Artist_Name':^20}{'Genre':^20}
187 ...
188
```

```
184 print>TitleRow
185 print"=*71)
186 Index=1
187
188 for i in Record:
189     R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
190     print(R)
191     Index+=1
192 print"=*71)
193
194
195
196 def SearchByArtistName():
197     UserInput=input('Enter desired Artist_Name:')
198     Command=f"select * from songs where Artist_Name like '%{UserInput}%'
... order by Artist_Name;"
199     Cur.execute(Command)
200     Conn.commit()
201     Record=Cur.fetchall()
202     print("=*71)
203
... TitleRow=f"'Index':^8}'Track_Name':^25}'Artist_Name':^20}'Genre':^20}
...
204     print>TitleRow)
205     print"=*71)
206     Index=1
207
208     for i in Record:
209         R= f"{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}"
210         print(R)
211         Index+=1
212     print("=*71)
213
214
215
216 def SearchByGenre():
217     UserInput=input('Enter desired Genre :')
218     Command=f"select * from songs where  Genre like '%{UserInput}%' order
... by Genre;"
219     Cur.execute(Command)
220     Conn.commit()
221     Record=Cur.fetchall()
222     print("=*71)
223
... TitleRow=f"'Index':^8}'Track_Name':^25}'Artist_Name':^20}'Genre':^20}
...
224     print>TitleRow)
225     print"=*71)
226     Index=1
227
228     for i in Record:
```

```
229     R= f"{{Index:^8}{i[1]:^25}{i[2]:^20}{i[3]:^20}}"
230     print(R)
231     Index+=1
232     print("=*71)
233
234
235
236 def Menu():
237     while True:
238         print("\n1.Search\n2.Explore\n3.Playlist Options\n4.Exit\n")
239         Choice=int(input("Enter Your Choice: "))
240         if Choice==1:
241             while True:
242                 print("\n1.By Song Name\n2.By Artist Name\n3.By
...Genre\n4.Back\n")
243                 Choice=int(input("Enter Your Choice: "))
244                 if Choice==1:
245                     SearchByTrackName()
246                 elif Choice==2:
247                     SearchByArtistName()
248                 elif Choice==3:
249                     SearchByGenre()
250                 elif Choice==4:
251                     break
252                 else:
253                     print("\nInvalid Option, Try Again")
254
255             elif Choice==2:
256                 while True:
257                     print("\n1.Top Songs\n2.High Energy Songs\n3.Fast Beat
...Songs\n4.Top Party Songs\n5.Back\n")
258                     Choice=int(input("Enter Your Choice: "))
259                     if Choice==1:
260                         SortByPopularity()
261                     elif Choice==2:
262                         SortByEnergy()
263                     elif Choice==3:
264                         SortByBPM()
265                     elif Choice==4:
266                         SortByDanceability()
267                     elif Choice==5:
268                         break
269                     else:
270                         print("\nInvalid Option, Try Again")
271
272             elif Choice==3:
273                 while True:
274                     print("\n1.Show All Songs In Playlist\n2.Search In
...Playlist\n3.Add Songs to Playlist\n4.Delete Songs from
...Playlist\n5.Back\n")
```

```
276     Choice=int(input("Enter Your Choice: "))
277     if Choice==1:
278         ShowAllSongsInPlaylist()
279     elif Choice==2:
280         UserInput=input("Enter Song Name: ")
281         Record=Search('Playlist', 'Track_Name', UserInput)
282         DisplaySearchForPlaylist(Record)
283     elif Choice==3:
284         UserInput=input("Enter Song: ")
285         Record=Search('Songs', 'Track_Name', UserInput)
286         Index_SNo=DisplaySearchForPlaylist(Record)
287         AddToPlaylist(Index_SNo)
288     elif Choice==4:
289         DeleteFromPlaylist()
290     elif Choice==5:
291         break
292     else:
293         print("\nInvalid Option, Try Again")
294
295     elif Choice==4:
296         break
297
298     else:
299         print("\nInvalid Option, Try Again")
300 Menu()
```

OUTPUT

- 1.Search
- 2.Explore
- 3.Playlist Options
- 4.Exit

Enter Your Choice: 1

- 1.By Song Name
- 2.By Artist Name
- 3.By Genre
- 4.Back

Enter Your Choice: 1

Enter desired track name :some

Index	Track_Name	Artist_Name	Genre
1	Someone You Loved	Lewis Capaldi	pop

- 1.By Song Name
- 2.By Artist Name
- 3.By Genre
- 4.Back

Enter Your Choice: 2

Enter desired Artist_Name:ed

Index	Track_Name	Artist_Name	Genre
1	Beautiful People	Ed Sheeran	pop
2	I Don't Care	Ed Sheeran	pop
3	Antisocial	Ed Sheeran	pop
4	Cross Me	Ed Sheeran	pop
5	Piece Of Your Heart	MEDUZA	pop house

- 1.By Song Name
- 2.By Artist Name
- 3.By Genre
- 4.Back

Enter Your Choice: 3

Enter desired Genre :pop

Index	Track_Name	Artist_Name	Genre
1	Dance Monkey	Tones and I	australian pop
2	Señorita	Shawn Mendes	canadian pop
3	If I Can't Have You	Shawn Mendes	canadian pop
4	boyfriend	Ariana Grande	dance pop
5	Loco Contigo	DJ Snake	dance pop
6	No Guidance	Chris Brown	dance pop
7	7 rings	Ariana Grande	dance pop
8	Never Really Over	Katy Perry	dance pop
9	Oh No, i'm lonely	Lauv	dance pop
10	You Need To Calm Down	Taylor Swift	dance pop
11	Shallow	Lady Gaga	dance pop
12	bad guy	Billie Eilish	electropop
13	bad guy	Billie Eilish	electropop
14	Otro Trago	Sech	panamanian pop
15	Otro Trago	Sech	panamanian pop
16	Beautiful People	Ed Sheeran	pop
17	I Don't Care	Ed Sheeran	pop
18	How Do You Sleep?	Sam Smith	pop
19	Someone You Loved	Lewis Capaldi	pop
20	Antisocial	Ed Sheeran	pop
21	Talk	Khalid	pop
22	Cross Me	Ed Sheeran	pop
23	Piece Of Your Heart	MEDUZA	pop house

- 1.By Song Name
- 2.By Artist Name
- 3.By Genre
- 4.Back

Enter Your Choice: 4

- 1.Search
- 2.Explore
- 3.Playlist Options
- 4.Exit

Enter Your Choice: 2

- 1.Top Songs
- 2.High Energy Songs
- 3.Fast Beat Songs
- 4.Top Party Songs
- 5.Back

Enter Your Choice: 1

Index	Track_Name	Artist_Name	Genre
1	bad guy	Billie Eilish	electropop
2	Goodbyes	Post Malone	dfw rap
3	Callaita	Bad Bunny	reggaeton
4	Ransom	Lil Tecca	trap music
5	China	Anuel AA	reggaeton flow

- 1.Top Songs
- 2.High Energy Songs
- 3.Fast Beat Songs
- 4.Top Party Songs
- 5.Back

Enter Your Choice: 2

Index	Track_Name	Artist_Name	Genre
1	Never Really Over	Katy Perry	dance pop
2	Con Calma	Daddy Yankee	latin
3	If I Can't Have You	Shawn Mendes	canadian pop
4	Antisocial	Ed Sheeran	pop
5	China	Anuel AA	reggaeton flow

- 1.Top Songs
- 2.High Energy Songs
- 3.Fast Beat Songs
- 4.Top Party Songs
- 5.Back

Enter Your Choice: 3

Index	Track_Name	Artist_Name	Genre
1	boyfriend	Ariana Grande	dance pop
2	Ransom	Lil Tecca	trap music
3	Callaita	Bad Bunny	reggaeton
4	LA CANCIÓN	J Balvin	latin
5	Otro Trago	Sech	panamanian pop

- 1.Top Songs
- 2.High Energy Songs
- 3.Fast Beat Songs
- 4.Top Party Songs
- 5.Back

Enter Your Choice: 4

Index	Track_Name	Artist_Name	Genre
1	Talk	Khalid	pop
2	Old Town Road	Lil Nas X	country rap
3	Con Altura	ROSALÍA	r&b en espanol
4	Lalala	Y2K	canadian hip hop
5	Sucker	Jonas Brothers	boy band

- 1.Top Songs
- 2.High Energy Songs
- 3.Fast Beat Songs
- 4.Top Party Songs
- 5.Back

Enter Your Choice: 5

- 1.Search
- 2.Explore
- 3.Playlist Options
- 4.Exit

Enter Your Choice: 3

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 1

Index	Track_Name	Artist_Name	Genre
1	Señorita	Shawn Mendes	canadian pop
2	China	Anuel AA	reggaeton flow
3	Ransom	Lil Tecca	trap music
4	Sunflower	Post Malone	dfw rap
5	Takeaway	The Chainsmokers	edm
6	Summer Days	Martin Garrix	big room
7	Oh No, i'm lonely	Lauv	dance pop

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 2

Enter Song Name: s

Index	Track_Name	Artist_Name	Genre
1	Señorita	Shawn Mendes	canadian pop
2	Ransom	Lil Tecca	trap music
3	Sunflower	Post Malone	dfw rap
4	Summer Days	Martin Garrix	big room

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 3

Enter Song: 7

Index	Track_Name	Artist_Name	Genre
1	7 rings	Ariana Grande	dance pop

Do you wish to add any song(Y/N)? Y

Enter Index of Song: 1

Song Added to Playlist

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 3

Enter Song: oh

Index	Track_Name	Artist_Name	Genre
1	Oh No, i'm lonely	Lauv	dance pop

Do you wish to add any song(Y/N)? Y

Enter Index of Song: 1

Song Already Exists

- 1.Show All Songs In Playlist

- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 4

Index	Track_Name	Artist_Name	Genre
1	Señorita	Shawn Mendes	canadian pop
2	China	Anuel AA	reggaeton flow
3	Ransom	Lil Tecca	trap music
4	Sunflower	Post Malone	dfw rap
5	Takeaway	The Chainsmokers	edm
6	7 rings	Ariana Grande	dance pop
7	Summer Days	Martin Garrix	big room
8	Oh No, i'm lonely	Lauv	dance pop

Enter Index Number of Song to be Deleted: 2

Song has been Deleted

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 1

Index	Track_Name	Artist_Name	Genre
1	Señorita	Shawn Mendes	canadian pop
2	Ransom	Lil Tecca	trap music
3	Sunflower	Post Malone	dfw rap
4	Takeaway	The Chainsmokers	edm
5	7 rings	Ariana Grande	dance pop
6	Summer Days	Martin Garrix	big room
7	Oh No, i'm lonely	Lauv	dance pop

- 1.Show All Songs In Playlist
- 2.Search In Playlist
- 3.Add Songs to Playlist
- 4.Delete Songs from Playlist
- 5.Back

Enter Your Choice: 5

- 1.Search
- 2.Explore
- 3.Playlist Options
- 4.Exit

BIBLIOGRAPHY

The Following Resources were Used:

- <https://stackoverflow.com>
- <https://apple.stackexchange.com>
- <https://www.w3schools.com>
- <https://docs.python.org/3/>
- <https://dev.mysql.com/doc/>
- <https://www.geeksforgeeks.org>
- <https://smallpdf.com>

THANK YOU!