

SWINBURNE UNIVERSITY OF TECHNOLOGY

2021 SEM 1 INTRODUCTION TO PROGRAMMING

DOUBTFIRE SUBMISSION

Text Music Player with Menu

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```
1  require './input_functions'
2  # Test the functions above
3  module Genre
4      POP, CLASSIC, JAZZ, ROCK = *1..4
5  end
6
7  $genre_names = ['Null', 'Pop', 'Classic', 'Jazz', 'Rock']
8
9  class Album
10     attr_accessor :name, :artist, :genre, :tracks
11
12     def initialize(name, artist, genre, tracks)
13
14         @name = name
15         @artist = artist
16         @genre = genre
17         @tracks = tracks
18
19     end
20 end
21
22 class Track
23     attr_accessor :track_name, :track_location
24     def initialize(track_name, track_location)
25         @track_name = track_name
26         @track_location = track_location
27     end
28 end
29
30 def read_tracks(a_file)
31
32     count = a_file.gets().to_i()
33
34     tracks = Array.new()
35     while count > 0 do
36         track = read_track(a_file)
37         tracks << track
38         count -= 1
39     end
40
41     return tracks
42 end
43
44 def read_track(a_file)
45     track_name = a_file.gets()
46     track_location = a_file.gets()
47     track = Track.new(track_name, track_location)
48     track.track_name = track_name
49     track.track_location = track_location
50     return track
51 end
52
53
```

```
54 def read_albums(music_file)
55
56     count = music_file.gets().to_i()
57
58     albums = Array.new()
59
60     while count > 0 do
61         album = read_album(music_file)
62         #puts album.name
63         albums << album
64         count -= 1
65     end
66     return albums
67 end
68
69 def read_album(a_file)
70     name = a_file.gets().chomp()
71     artist = a_file.gets().chomp()
72     genre = a_file.gets().chomp()
73     tracks = read_tracks(a_file)
74
75     albums = Album.new(name, artist, genre, tracks)
76     albums.name = name
77     albums.artist = artist
78     albums.genre = genre
79     albums.tracks = tracks
80
81     return albums
82 end
83
84 def print_play_tracks(albums)
85     print_albums(albums)
86     max = albums.length + 1
87     a_choice = read_integer_in_range("Which album you want to play", 1,5)
88     print_tracks(albums[a_choice - 1].tracks)
89     max = albums[a_choice - 1].tracks.length + 1
90     choice = read_integer_in_range("which track you want : ", 1, max)
91     puts("You are playing track #{albums[a_choice - 1].tracks[choice - 1]
92     ↵ }.track_name}")
93     gets()
94 end
95
96 def print_tracks(tracks)
97     index = 0
98
99     while index < tracks.length
100
101         print_track(tracks[index], index)
102         index +=1
103     end
104
105 end
```

```
106
107 def print_track(track, index)
108     puts([index+1].to_s + " " + track.track_name)
109
110 end
111
112
113 def print_album(album, index)
114     puts("Album: " + [index+1].to_s + " " + album.name + " by " + album.artist)
115
116 end
117
118 def print_albums(albums)
119
120     index = 0
121     count = albums.length.to_i
122
123     while (index < count)
124         puts "-----"
125         print_album(albums[index], index)
126         #print_tracks(tracks[index])
127         index += 1
128     end
129
130 end
131
132
133 def read_genre(a_file)
134     genre = a_file.gets()
135     if genre.to_i == read_integer_in_range("Enter Genre between 1 - 4: ", 1, 4)
136         print_albums(albums)
137     end
138 end
139
140 def read_album_by_genre(a_file)
141     puts("Enter Genre")
142     genre = read_integer_in_range("Enter Genre between 1 - 4: ", 1, 4)
143
144     name = a_file.gets()
145     artist = a_file.gets()
146     #genre = read_genre(a_file)
147     tracks = read_tracks(a_file)
148     album = Album.new(name, artist, genre, tracks)
149     album.name = name
150     album.artist = artist
151     album.genre = genre
152     return album
153 end
154
155 def show_track(albums)
156     max = $genre_names.length
157     count = 1
158     puts("-----")
```

```
159     while (count < max)
160         puts("#{count } " + $genre_names[count])
161         count += 1
162     end
163 end
164
165 def print_album_by_track(albums)
166     max = $genre_names.length
167     genre_id = read_integer_in_range("Please enter genre:", 1, max)
168     puts('Genre is ' + $genre_names[genre_id])
169
170     count = albums.length()
171     x = 0
172     #puts("-----")
173     while (x < count)
174         if (genre_id == albums[x].genre.to_i())
175             puts("-----")
176             print_album(albums[x], x)
177             puts ("Tracks of these album: ")
178             print_tracks(albums[x].tracks)
179
180             end
181             x += 1
182         end
183     end
184
185 def select_track(tracks)
186     choice = read_integer_in_range("which album you want : ", 1,5)
187     print_tracks(tracks[choice-1])
188 end
189
190 def display_tracks(albums)
191     puts('1 Display all Albums')
192     puts('2 Display Albums by Genre')
193     choice = read_integer_in_range("Please enter your choice:", 1, 2)
194     case choice
195     when 1
196         print_albums(albums)
197     when 2
198         show_track(albums)
199         print_album_by_track(albums)
200
201     end
202 end
203
204 def print_update_title(albums)
205     id = read_integer_in_range("Which album you want to change from 1 - 4: ", 1, 4)
206     puts("Enter new album name:")
207     albums[id-1].name = gets().chomp()
208     puts ("New album name is: ")
209     puts(albums[id-1].name)
210     #album = update(album)
211 end
```

```
212
213     #album.title = read_updated_name()
214
215 end
216
217
218 def print_update_genre(albums)
219     genre_id = read_integer_in_range("Which album you want to change from 1 - 4: ",
220     ↪ 1, 4)
221     puts("Enter new genre:")
222     albums[genre_id-1].genre = gets().chomp()
223     puts ("New album is: ")
224     puts(albums[genre_id-1].genre)
225
226 end
227
228 def update(albums)
229     puts('1 Update Album Title')
230     puts('2 Update Album Genre')
231     choice = read_integer_in_range("Please enter your choice:", 1, 2)
232
233     case choice
234     when 1
235         #print_update_title()
236         print_update_title(albums)
237
238         #print_update_title(albums, false, album_title)
239     when 2
240         print_update_genre(albums)
241
242     end
243 end
244
245 def main()
246
247     a_file = File.new("input7.txt", "r")
248     albums = read_albums(a_file)
249     finished = false
250     begin
251         puts('Main Menu:')
252         puts('1 Read in Album')
253         puts('2 Display Album')
254         puts('3 Select an Album to play')
255         puts('4 Update an existing Album')
256         puts('5 Exit the application')
257         choice = read_integer_in_range("Please enter your choice:", 1, 5)
258     case choice
259     when 1
260         albums
261         #tracks = read_tracks(a_file)
262
263     when 2
```

```
264     if albums.length > 0
265         display_tracks(albums)
266     else
267         "No albums are loaded. Please select read album"
268     end
269 when 3
270     if albums
271         print_play_tracks(albums)
272     else
273         "No albums are loaded. Please select read album"
274     end
275 when 4
276     if albums
277         update(albums)
278     else
279         "No albums are loaded. Please select read album"
280     end
281 when 5
282     if albums
283         finished = true
284     else
285         puts('Please select again')
286     end
287 end
288 end until finished
289
290
291
292
293
294
295 end
296
297 main()
```

```
1 Read in Album
2 Display Album
3 Select an Album to play
4 Update an existing Album
5 Exit the application
Please enter your choice:
4
1 Update Album Title
2 Update Album Genre
Please enter your choice:
2
Which album you want to change from 1 - 4:
3
Enter new genre:
POP
New album is:
POP
Main Menu:
1 Read in Album
2 Display Album
3 Select an Album to play
4 Update an existing Album
5 Exit the application
Please enter your choice:
2
1 Display all Albums
2 Display Albums by Genre
Please enter your choice:
1
-----
Album: [1] Neil Diamond by Greatest Hits
-----
Album: [2] Platters by Greatest Hits
-----
Album: [3] Don McClean by American Pie
-----
Album: [4] Carly Simon by No Secrets
Main Menu:
1 Read in Album
2 Display Album
3 Select an Album to play
4 Update an existing Album
5 Exit the application
Please enter your choice:
5
```