

SWINBURNE UNIVERSITY OF TECHNOLOGY

2021 SEM 1 INTRODUCTION TO PROGRAMMING

DOUBTFIRE SUBMISSION

Array Search

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```
1  require './input_functions'
2
3  # Task 6.1 T - use the code from 5.1 and 5.2 T to help with this
4
5
6
7  class Track
8      attr_accessor :name, :location
9
10     def initialize (name, location)
11         @name = name
12         @location = location
13     end
14 end
15
16 # Reads in and returns a single track from the given file
17
18 def read_track(music_file)
19     track_name = music_file.gets.chomp
20     track_location = music_file.gets.chomp
21     returning_track = Track.new(track_name, track_location)
22     return returning_track
23
24     # fill in the missing code
25 end
26
27 # Returns an array of tracks read from the given file
28
29 def read_tracks(music_file)
30     tracks = Array.new()
31     count = music_file.gets().to_i()
32     tracks = Array.new()
33
34
35
36     # Put a while loop here which increments an index to read the tracks
37
38     while count > 0 do
39         track = read_track(music_file)
40         tracks << track
41         count -= 1
42     end
43
44
45     return tracks
46 end
47
48 # Takes an array of tracks and prints them to the terminal
49
50 def print_tracks(tracks)
51     # print all the tracks use: tracks[x] to access each track.
52 end
53
```

```
54 # Takes a single track and prints it to the terminal
55 def print_track(track)
56     puts('Track title is: ' + track.title)
57     puts('Track file location is: ' + track.file_location)
58 end
59
60
61 # search for track by name.
62 # Returns the index of the track or -1 if not found
63 def search_for_track_name(tracks, search_string)
64     found_index = -1
65     i = 0
66     while i < tracks.length
67         if (tracks[i].name.downcase == search_string.downcase)
68             return i
69         end
70         i += 1
71     end
72
73 # Put a while loop here that searches through the tracks
74 # Use the read_string() function from input_functions.
75 # NB: you might need to use .chomp to compare the strings correctly
76
77 # Put your code here.
78
79     return found_index
80 end
81
82
83 # Reads in an Album from a file and then prints all the album
84 # to the terminal
85
86 def main()
87     music_file = File.new("album.txt", "r")
88     tracks = read_tracks(music_file)
89     music_file.close()
90
91     search_string = read_string("Enter the track name you wish to find: ")
92     index = search_for_track_name(tracks, search_string)
93     if index > -1
94         puts "Found " + tracks[index].name.chomp + " at " + index.to_s()
95     else
96         puts "Entry not Found"
97     end
98 end
99
100 main()
```

```
PS D:\COS10009\CODE\LAB6> ruby 6_1T.rb
Enter the track name you wish to find:
Soolaimon
Found Soolaimon at 1
PS D:\COS10009\CODE\LAB6> ruby 6_1T.rb
Enter the track name you wish to find:
Greatest Hits
Entry not Found
PS D:\COS10009\CODE\LAB6> 
```