

# COMP 303 Assignment 3

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Due: Feb 25, end of day Montreal time zone. It covers the content until Module 4 - Design for Robustness, corresponding to Chapter 1-4 of the textbook and other materials listed on the syllabus.

## Task Description

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You are developing a system for an audio library that stores Songs and Podcasts. Using the principles, mechanisms, and techniques discussed in the course, modify the base code (attached in the assignment) according to the following requirements.

1. Each music library is characterized with a name. It may also contains a natural language description provided by the user. [2 points]
2. Your application should make sure that there is only **one** object of the library at any time during operation. [5 points]
3. Users of the library should be able to manage `song`s and `podcast`s to the library. Two songs are considered the same if they have the same `title` and `artist`, similarly for podcasts but for the fields of `title` and `host`. The application should prevent the users from creating duplicated songs or podcasts. Hint: please consider alternatives to throwing exceptions when the same song already exists in the library. Implement this constraint for `Podcast` as well. [5 points]
4. Support the function of managing playlists in the library. The playlist can contain songs and/or episodes from podcasts. Two playlists should be considered the same if the content is the same (i.e. they aggregate the **same Playable objects** in the **same order**), regardless of the name of the two playlists. [5 points]
5. In `Main.java`, write runner code to show you have fulfilled all the requirements above. [3 points]

## Notes

- You don't need to submit any diagram for this assignment. You can still use diagrams to support your design process, but it won't be graded.
- For the sake of this assignment, `String` type is sufficient for the attributes such as artist name, host name, title, library description, etc. The comparison of those attributes should be **case insensitive**. For example, `Taylor Swift` and `taylor swift` are considered same name.
- Reading and understanding a small codebase is an important skill. For any questions, please take the time to **review the codebase and make your best assumption**. If confusion remains, you may ask on Ed at least 24 hours before the due date of the assignment.

## What to submit

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Submit a zip with filename `StudentID_Firstname_Familyname` . For example, `260912345_Taylor_Swift.zip` .

Inside the zip, you should have:

1. All the `.java` files of your solution, including the `Main.java` file;
2. pdf file of a very short description (max. 100 words) for the design of your solution (major decisions, techniques used, trade-offs, etc.)

## **Rules of Carrying Out Assignment, Grading Scheme, and Policy on Code Reuse**

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Please reference the previous assignments.