

Application: Music Album Management Application
Methods and Algorithms

Class Name: Artist

- `public int getAge() {}`

age = current year – year of birth

data types: current year – `java.time.Year`, year of birth – `int`

convert the year data type into integer and subtract the year of birth.

Return: `int` age

Class Name: Song

- `public double getDurationInMinutes() {}`

duration in minutes = (duration in seconds / 60)

(duration in seconds / 60) should be converted into double data type.

Return: double duration in minutes.

- `public double getDurationInHours() {}`

duration in hours = (duration in minutes / 60)

duration in minutes can be taken from the `getDurationInMinutes()` method and it returns the duration in minutes in double data type.

Return: double duration in hours

Class Name: Album

- `public Song getSongByTitle (String title) {}`

Search the array with a suitable searching algorithm. Since this is a first-year course, we use the linear search algorithm to do the searching.

- `public Song[] getSongsByArtist (String name) {}`

Create a new array to store the search results.

Search the main song list array using linear search.

Add elements to the new local array and return the array.

Please note that there are shorter, easier, and more efficient ways to do that, but since this is a first-year course, we should stick to the basic principles.

- `public Song[] getSongsByYear (int year) {}`

Create a new array to store the search results.

Search the main song list array using linear search.

Add elements to the new local array and return the array.