WIX1002 Fundamentals of Programming
Lab Report 3

1. Create a Money class that automatically segregates a lump sum of money (in cents) into different banknotes (RM100, RM50, RM20, RM10, RM5, RM1) and cents (50cents, 20 cents, 10cents, 5cents, 1cent). The class consists of the following constructors:

   - An empty constructor that generates a random amount of money in cents within 1000 till 100000.
   - A constructor that consists of an integer parameter (amount of money)
   - A constructor that consists of an integer array parameter (amounts of money)
   - Accessor and mutator method.
   - An add method that consists of a Money object parameter. The method is used to accumulates the amounts of all Money objects.
   - A toString method that returns the amount of money and the total banknotes and cents.

   Sample output

```
Amount = 81350cents   (RM813.50)
RM100         quantity=   8
RM50          quantity=   0
RM20          quantity=   0
RM10          quantity=   1
RM5           quantity=   0
RM1           quantity=   3
50cents       quantity=   1
20cents       quantity=   0
10cents       quantity=   0
5 cents       quantity=   0
1 cents       quantity=   0


Amount = 18212cents   (RM182.12)
RM100         quantity=   1
RM50          quantity=   1
RM20          quantity=   1
RM10          quantity=   1
RM5           quantity=   0
RM1           quantity=   2
50cents       quantity=   0
20cents       quantity=   0
10cents       quantity=   1
5 cents       quantity=   0
1 cents       quantity=   2
```

2. Create a Song class that used to store the song information which consists of the title, filename, singer, duration, and year. The class can store an array of maximum 20 songs. The class consists of the following methods

- A constructor that accepts the song information.
- A method to sort the song based on title.
- A method to sort the song based on duration.
- A method to search the song by title.
- A method to search the song by singer.
- A play method that gets the current song info.
- A next method that moves to the next song. If the song is the last song, the method will move to the first song.
- A previous method that moves to the previous song. If the song is the first song, the method will move to the last song.
- A toString method to display the song information.

Create a Song object and then insert a few songs information. After that, execute all the above methods.

Lab Report

Prepare a report to solve the above problems. The report should contain all the sections as below for each question:

No	Section	Description
1	Problem	Description on the problem
2	Solution	Explanation on how to solve the above problems
3	Sample Input & Output	A few sets of input and output (snapshot)
4	Source Code	Java Source Code

Requirements

1. Group Assignment (4-5 students per group)
2. Cover page that includes all student matric number and full name.
3. Font: Times New Roman 12, Line Spacing: 1 ½ Spacing
4. Due Date: **14/01/2022**
5. The method of submission is based on your group lecturer.