Lab Exercise for Week 2

Define a `Date` class with the following methods:

A constructor that takes a day, a month and a year as integers.

A `print` method that takes a `PrintStream` as a parameter.

Three methods, `getDay`, `getMonth` and `getYear` that return the integer day, month and year.

A method called `diffInYears` that takes a `Date` object as a parameter and returns the difference in years between the `Date` parameter and itself. This is an integer.

Write a program to test this class, making sure all the methods are tested.

Write a `Person` class that stores relevant information (name and date of birth) about an individual `Person`. It should have the following methods:

A constructor that takes the name and date of birth as a `Date` object.

A print method with a `PrintStream` parameter. It should print out the person's name and date of birth.

A method called `getName` that returns the person's name.

A method called `getAge` which takes the current date as a parameter and returns the person's age as an integer.

Write a program to test this class

Write a class called `Lop` that stores a list of people. Use a simple implementation, a fixed size array. It should have the following methods:

`add`, which takes a `Person` as a parameter and adds it to the list.

`remove`, which takes a `Person` as a parameter and removes it from the list.

`find`, which takes a `String` as a parameter and returns either the first `Person` in the list with that name or a `null` value.

`print`, which prints out all the Person obejcts in the list, one per line.

Write a program to test this class.

For added credit, provide a better implementation of `Lop`, using a collection rather than an array. You should not have to change any code apart from the `LoP` class.

Demonstrate your solution by the lab on 30th January.