

## COMP 1451 Lab 1-b ( 5 points )

### Take-home lab

This lab must be done on your own. Be sure to include appropriate Javadoc comments. Your solution must be done as an Eclipse project.

This project has two classes:

**Member:** a member of a club. A member has first and last name, and month and year of joining. Use these symbolic constants:

```
public static final int FIRST_MONTH = 1;
public static final int LAST_MONTH = 12;
public static final int CURRENT_YEAR = 2018;
public static final String DEFAULT_NAME = "unknown";
```

Use two constructors. The default constructor will maintain the default values of all the fields. The overloaded constructor expects all four values passed as parameters. The overloaded constructor calls set methods to validate and assign.

The set methods for first and last name must validate their parameters to ensure the names are not null. If a name is null, set it to the default name.

The set method for the month must validate its parameter to ensure the month is between FIRST\_MONTH and LAST\_MONTH inclusive. If outside this range set it to FIRST\_MONTH. The set method for year must validate its parameter to ensure the year is not negative and not higher than CURRENT\_YEAR. If outside this range set it to the current year.

The class also has appropriately-named accessor methods.

**Club:** A club can hold a fixed number of members stored in an Member[ ] Array. It must have these methods:

**public void join(Member member)** – adds a member to the club. New Members will be added to the first null index in the Array.

**public int numberOfMembers()** – returns the count of members

**public void showMembers()** – displays the details of all members in the club

**void showMembersByYear(int year)** – displays the details of only those members who joined in the specified year

**void removeMembersByYear(int year)** – removes all members who joined in the specified year.

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**FINALLY** a driver class will be implemented to create Members and add them to the Club. It will then test the Club methods by calling each of them. Be sure to call **showMembers()** after members are removed.

The take-home lab is due as stipulated on the dropbox. Zip the project and upload it to the appropriate D2L dropbox by the deadline. A suggested solution will be discussed in class and labs not already in the dropbox will not receive any points.