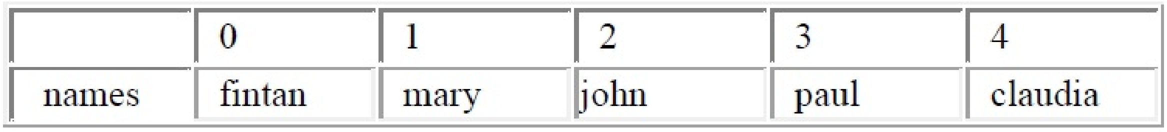
LAB 4

Suggested order: Complete part 1 before completing part 2,3

Part 1

In this part you will use for loops and arrays. In part you should write a class which creates an array of Strings. This array should be called names and should hold exactly 5 elements. Your class should populate this array by reading in 5 Strings from the user (using a showInputDialog method) and putting those Strings into the names array (the first String going into the first box in the array, the second into the second box, and so on). After reading in the 5 strings from the user, your class should re-display those strings to the user in the order in which they were read in. For each String in the names array, your program should use a showMessageDialog box to show the user that string and tell them the box it was placed in. For example, if the names array was as follows:



	0	1	2	3	4
names	fintan	mary	john	paul	claudia

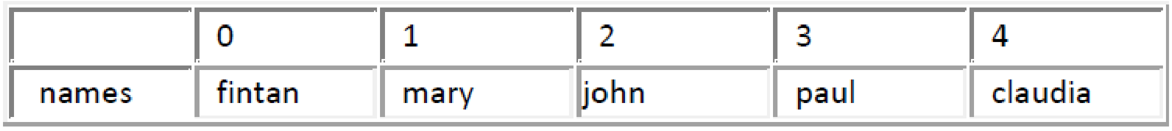
Your program should first display a MessageDialog with the message
Box 0 of the names array contains: fintan
Then a MessageDialog with the message
Box 1 of the names array contains: mary
And so on to show the contents of all 5 boxes.
Please call your program MyStringArray and save it in a file called MyStringArray.java. When you have written and saved your program, you should compile it and run it using the command prompt. Make sure your program compiles and runs correctly.

Part 2

In this part you will use for loops and arrays. In this part you should write a class which creates an array of Strings called names and holding exactly 5 elements. Your class should populate this array by reading in 5 Strings from the user using a showInputDialogmethod. (This part is just like part 1) After reading these 5 Strings from the user, your class should carry out the following three actions:

1. Use a showInputDialog to ask the user for a name (a String) to look for. You may put it in a variable called searchname.
2. Use a new for loop to go through the array from the first box to the last, using the searchname.equals() method to check if the string in that box is equal to the string in the searchname variable,
3. When the box contents are equal to the searchname string, use a showMessageDialog to tell the user the array index (the box in the array) in which the name they were looking for occurred. This message dialog should display a message like "X was found in box Y in the array" (where X is the entered name and Y the box it was found in).

To give an example of the program at work, suppose the names array was entered as follows:



	0	1	2	3	4
names	fintan	mary	john	paul	claudia

If the user entered the name "claudia", the program would display the message
claudia was found in box 4 in the array
If, instead, the user entered "fintan" the program would respond
fintan was found in box 0 in the array and so on.
Please call your program SearchMyStringArray and save it in a file called SearchMyStringArray.java. When you have written and saved your program, you should compile it and run it using the command prompt. Make sure your program compiles and runs correctly.

Part 3

In this part you will use for loops and arrays.
You might also want to look up the String method compareTo in the Java API description of the String class http://docs.oracle.com/javase/7/docs/api/index.html (the main API page) or http://docs.oracle.com/javase/7/docs/api/index.html?java/lang/String.html (the page for the String class). Search for compareTo in the string class API.

In this part you should write a class which takes an array of Strings from the user at the command prompt (rather than from a series of JOptionPanes). After reading in the Strings from the user, your class should sort the array in to ascending order alphabetically and then display the Strings to the user in **sorted** order. Your class should print out the strings in the array on the command prompt, with a space between each string.

You class should be called MySortProgram and saved in a file called MySortProgram.java. It should produce the following output:

```
>java MySortProgram fintan alex zebedee pat mike
alex fintan mike pat zebedee
```

Remember that the list of Strings given here after the program name appears in the array of Strings called args in the main method of your class.
When you have written and saved your program, you should compile it and run it using the command prompt. Make sure your program compiles and runs correctly.