

# Swing and MVC

To simplify these problems, I have made a class in my swing-mvc-exercises project called `JListBase`. By using `JListBase`, all you have to do is to create a `JList`, and the code will automatically create and pop up a window containing your `JList`. Copy `JListBase` and `WindowUtilities` to your new project as a starting point. Make a subclass of `JListBase` and implement these methods:

- **makeJList.** Have this return the `JList` you want. This is the *only* method you need to override for problems 1, 2, 4, and 5. Note that the base code takes this return value and puts it into a protected instance variable call `jList`. If you are rusty with generics, just use unchecked types (`JList`, not `JList<String>`, `JListBase`, not `JListBase<String>`) and ignore warnings about using raw types.
- **addStufftoListPanel.** Have this call “add” on the `JPanel` argument, if you want to add something extra to the top window. For problem 3, you will use this method to make a `JButton`, attach a listener, and then call `listPanel.add(yourNewJButton)`. But if all you want is a `JList` and nothing else, ignore this method totally.

Once you have done this, just make a “main” method that instantiates your class. For example, here is a simple program that pops up a window that contains a list showing some names.

```
public class JListTest extends JListBase<String> {
    @Override
    protected JList makeJList() {
        // In your code, you have to write this part to create a JList
        String[] names = { "Joe", "Jane", "John", "Juan", "Jean" };
        JList<String> nameList = new JList<>(names);
        return(nameList);
    }

    public static void main(String[] args) { new JListTest(); }
}
```

1. Make an `Employee` class with a first name, last name, and salary. Make an array of `Employee` objects. Make a `JList` that shows the names: Specifically, make an array of `Strings` by looping down the `Employees` and looking up the name, then display those `Strings` in a `JList`.
2. Repeat the previous problem, but this time don't make an array of `Strings` first. (Hint: give your class a `toString` method and note that you can pass an `Object[]` (e.g., the `Employee[]`) to the `JList` constructor.)
3. Add a push button that, when pressed, pops up a dialog box showing the salary of the currently selected name. Hint1: call `listBox.getSelectedValue()` and cast the result to `Employee`. Hint2: assuming “this” refers to the subclass of `JListBase`, pop up a dialog box with `JOptionPane.showMessageDialog(this, someMessage)`.
4. Make a `List<Employee>`. Implement the `ListModel` interface in order to put the employees into a `JList`. (Hint: as in the class example, you can have empty bodies for `addListDataListener` and `removeListDataListener`).