

## Lab 10: Building a Notes App

### A. Using a class with an ArrayList.

Here is the Notebook.java program shown in class:

```
import java.util.ArrayList;

public class Notebook {
    public ArrayList<String> notes;
}
```

While this makes the ArrayList easy to work with from a driver program, it is also not god design as it is too exposed. Modify the variable to be private, and make the needed corrections in NotebookTest.java. Make sure that Notebook has a getter and setter for notes.

### B. Adding useful methods to Notebook.

After part A, we should be able to:

- get the ArrayList notes using our Notebook object's getter;
- set the ArrayList notes by using our Notebook object's setter and sending it an ArrayList of Strings;
- get the size of the ArrayList from our Notebook object.

But let's continue to enrich our Notebook class with the methods that:

- add an individual note to the ArrayList (if you haven't already done this)
- delete a note using its position in the ArrayList
- get the position of a note based on its value, e.g., in what position is note "Buy milk"?
- get the note text for a given position
- set (update) the note text for a given position

### C. Preventing duplicate notes.

Modify your "add note" method above so that it will not add a duplicate value to the ArrayList..

### D. Moving notes up and down.

Imagine if your notes were in priority order. It might be nice to select a note and then move it up (prioritize) or down (deprioritize). Create a moveNoteUp method that will move a note up one spot, and a corresponding moveNoteDown method that will move a note down one spot.

### E. Moving notes multiple times

In your NotebookTest driver program, use a For loop to move a note up for a specified number of moves (which you will store in a variable). Set the value of this variable to 2 and test your For loop. Use the method you created in step D.

Make a corresponding For loop to move a note down a specified number of times.

### F. Moving notes to the top or bottom of the list.

Finally, make two last methods to move a list item to the top of the list, or the bottom of the list.