Project Stage 4: Basic searching and File I/O

You must *work by yourself* on this stage.

In this stage you will implement several methods related to searching a Bible and implement a method to read in the verses from a file. You will start with a new project this time. The **Reference** and **Verse** classes are implemented for you already. The only code you might need from your Stage 2 solution is from the **SimpleBible** class.

1. Download the following zipfile:
   https://cusack.hope.edu/ShowFiles/index.php?page=listfiles&cate=Assignments&prog=BibleReader&name=BibleReaderStart_Stage4.zip
2. Unzip the directory in a location where you will be able to find it again.
   a. **Important**: Rename the directory from BibleReader to SmithBibleReader, where you replace Smith with your last name.
3. Go to Eclipse and add the project to your workspace as you have previously done.
   a. File□Import□General□Existing Projects into Workspace□Next
   b. Browse…Find the folder BibleReaderStart_Stage1 folder and select Finish.
4. Right-click on the Project in Eclipse. Select **Refactor□Rename** and put your name somewhere in the title or make it unique in some way.
5. Take a look at the **VerseList** class. It is just a wrapper class for an *ArrayList* with two fields added for convenience. You need to understand this class to implement searching and file I/O.
6. Next look at the **Bible** interface and the two classes that implement it (well, they will when you are done), **TreeMapBible** and **ArrayListBible**.
7. Notice that there are Javadoc comments for the methods in the **Bible** interface, but not in the classes that implement it. You should read the Javadocs for the methods in the **Bible** interface to make sure you are properly implementing each method in your class.
8. For this stage, implement **ArrayListBible**. (You will implement **TreeMapBible** later.)
   a. Implement all of the methods that are labeled **Stage 2** or **Stage 4**.
   b. As mentioned above, you can copy methods from your Stage 2 solution, but do so method-by-method, being careful to make sure you don't delete anything important.
9. Implement the **readATV** method of **BibleIO**. See the comments in that file for hints.
10. Run the tests for Stage 4, starting with **Stage04BibleIOTest** since some of the other tests depend on that class working correctly. Fix all of your bugs until you pass all of the tests.
11. As usual, add your names and other documentation in the appropriate places, remove any extraneous comments and code, and format your code before submitting it.
12. Fill out **MyGrade_P4.txt** (in the files directory of the project) with your actual time spent and expected grade (replace the underscores with your time/expected scores) and include a brief justification of your expected grade.
13. **Submitting**: Make a directory in your shared Google folder named *Project04* and put in it:
    a. *ArrayListBible.java*
    b. *BibleIO.java*
    c. **MyGrade_P4.txt**

14. Grades will be based on: correctness (mostly passing the tests), the sanity and efficiency of your code, formatting/organization of your code, and proper documentation.

Hints/Comments:

- You should not change the signature of any of the methods that are already in the code.
- When searching, you should call **toLower** on both the search string and the text of the verse you are searching.