

Programming Fundamentals

Assignment #3

The Lunar Ark

This program begins by constructing a 1200 element string array called, The **Ark**. Animals are added and removed from the ark by selecting various options from a recurring menu. Run the **Main.java** program found in the starter kit. This program can be used and modified as required. Watch the tour video to get an idea of how the program runs.

Your task is to add & remove animals from the lunar ark. Add names like, **tiger**. The rules for the ark are as follows:

- an animal species can only be added once to the ark. If another tiger is trying to be added, the program should reject the addition and print out an appropriate message, e.g. *Only one tiger is allowed*.
- allow your program to bulk add animals from a file or allow them to be added, one-by-one.
- allow your program to remove an animal, but if the animal to be removed is not there, display an appropriate message, e.g. *The tiger was not found*.
- allow your program to see if an animal is already in the ark, i.e. Find Animal
- the file *sample.html* in the starter kit along with *cloud.css* displays a word cloud of the animals in the ark. Write to file, *cloud.html* using the *sample.html* as a guide in order to produce *cloud.html*. Use a browser to see all of your animals in the ark by opening cloud.html
 - The animals in the ark are always stored in lower case, use `.toLowerCase()` to facilitate this.
 - The animals in the ark are always stored, in alphabetical order.
 - animalCount keeps track of how many animals are presently in the ark. Make sure that animalCount does not exceed the 1200 spot limit
 - go through the **assignment's rubric** to ensure that you haven't missed any marks available.

Sample Session(s)

```
Lunar Ark  
(Animals: 0 Empty Spots: 1200)
```

```
0. Load from file  
1. Add an Animal  
2. Delete an Animal  
3. Find Animal  
4. View the Animals  
5. Update Cloud  
Q. to quit  
Select (e.g.1 ) > 0  
Enter the animal filename (e.g. animals.txt) > animals.txt
```

bear cat dog fox giraffe moose mouse
tiger wolf zebra