

CSE 142 - Su 02

Assigned: Wednesday, August 7

Do not turn these in.

**** Homework 6 Practice Problems ****

1. Write a method called `getNames()`, taking no parameters and returning an `ArrayList`, that will repeatedly output a prompt for the user to enter a name, then get a string input by the user. The program will prompt for names until the string "done" is entered by the user. Each name entered will be stored in the `ArrayList` eventually returned by the method. A sample run of the program might look like this:

```
Enter a name: Groucho
Enter a name: Harpo
Enter a name: Chico
Enter a name: done
Done reading names
```

The method would then return a list containing the strings "Groucho", "Harpo", and "Chico". The "done" string is not added to the method.

2. One of the useful things about object oriented programming is that it lets you build a single piece of code that can operate on substantially different data types through the use of interfaces.

Consider the code that you are given in `CompareByRoute.java` that compares two `TransitBuses` based on their route numbers. It is this `Comparator` that allows you to sort a list of buses by their route number in `TransitReporter`.

How would you write a class that implements the `Comparator` interface and lets you sort a list of `TransitBuses` by their distance from a particular `Landmark`?
Note 1. `Landmarks` and `TransitBuses` implement the `Locatable` interface. Note 2. You will need to write a special constructor for this class, as well as implementing the `compare(Object a, Object b)` method.