

Recitation Assignment #9: ArrayList and File IO

CS0007

Due: July 14th, at 11:59 PM

Instructions

The goal of this assignment is to test your ability to use the ArrayList class and perform file input and output. You will make a simulation of people cutting in line at a bank. Your program should perform the following steps:

1. Read all the names from a file on the course webpage called "Line.txt" (This involves creating a Scanner object)
2. As you read the names, store them in an ArrayList object (This involves creating an ArrayList object)
3. When done storing all the names in the ArrayList, print out how many people are in line.
4. Next ask the user to enter a name and a place in line where that person cut in line. 1 indicates they cut to the front and so on (This involves creating ANOTHER Scanner object).
5. Add this person to the ArrayList in the proper place in the line.
6. Keep asking for names and places and adding them to the ArrayList until the user enters in "Q" as a name (This involves looping).
7. When the user enters "Q", write the ArrayList to a file called "UpdatedLine.txt" in the same format as "Line.txt" (This involves creating a File object and a PrintWriter object).
8. Print out how many people are in the line now.
9. Close the file streams.

There is no need to validate input in this project. Assume that all input for place in line will be integers. The Line.txt looks like this:

```
Eric  
Jon  
Mary  
Steve  
Joe  
Robert  
Alyssa  
Joslin
```

Tomas
Kate
Jill
Rupert

If I run the program like this:

There are 12 people currently in line
Name(Q to exit): Frank
Place in line: 4

Name(Q to exit): Clay
Place in line: 8

Name(Q to exit): Judy
Place in line: 9

Name(Q to exit): Q

There are now 15 people in line

UpdatedLine.txt will look like this:

Eric
Jon
Mary
Frank
Steve
Joe
Robert
Clay
Judy
Alyssa
Joslin
Tomas
Kate
Jill
Rupert

You are required to have sufficient internal documentation for your program. This is meant to be AN INDIVIDUAL ASSIGNMENT. Also, taking large segments of code from other sources without citing is plagiarism. The majority of this assignment should be YOUR OWN ORIGINAL WORK. I recommend getting a small storage device such as a flash drive to save your work on. You can get these for under \$20 at any Radio Shack, and many other stores. When you are done submit your project by zipping up the project folder and FTPing it to the drop box for this course as described in class and here: <http://www.cs.pitt.edu/~eth13/cs0007/submissionGuidelines.html>. On the course webpage there is a grading rubric which I will be grading from. Keep this in mind while doing the assignment.