CSC171 — Homework 11

Collections

The goal of this assignment is to give you experience with Java Collections. These are very versatile classes that you will find in almost any non-trivial application. All modern programming languages have something equivalent, so knowing how to use collections effectively will help you no matter what kind of programming you're doing. These questions only scratch the surface of what you can do with collections. Look at the javadoc and the Java tutorial for more. You should turn in three separate Java files – one per question.

Questions

1. Write a program that reads a series of strings from the user and stores them in a `List` of `String`s. Then read another string from the user, and iterate over the elements of the `List` and report whether the target string is equal (as in `equals`) to any element of the list. That is, report whether the list contains the final string.

2. Write a program that reads in a series of names and eliminates duplicates by storing them in a `Set` of `String`s. Then ask the user for a name and report whether it was one of the names that was read in.

3. Write a simple phonebook program that reads in a series of name-number pairs from the user (that is, name and number on one line separated by whitespace) and stores them in a `Map` from `String`s to `Integer`s. Then ask the user for a name and return the matching number, or tell the user that the name wasn't found.

Grading Scheme

Equal weight for each part.

Doesn't compile or is trivial	$< 50\%$
Compiles and is non-trivial	$\geq 50\%$
Complete and correct with good style and comments	100%
Incomplete, incorrect, bad style, no comments	$< 100\%$

Submission Requirements

Your submission **MUST** include a file named "`README.txt`" with your name, your NetID, the assignment number, and your lab section. This file should explain anything we need to know about how to build and run your project. In particular, be sure to explain how to run what parts of your submission for each question in the assignment.

Submit your solution as a single ZIP archive to BlackBoard before the deadline.

Mildly late homework will be accepted with a penalty. Significantly late work will not be accepted.

All assignments and activities associated with this course must be performed in accordance with the University of Rochester's Academic Honesty Policy.