The World of Zuul

Purpose: To understand how to use other collection types besides arrays.

Learning Objectives:

- Using ArrayLists and HashMaps
- Using Iterators
- Dynamic creation of collections
- Modifying collections in a loop
- Use of the equals() method

IMPORTANT NOTE:

Several students have asked if they can go beyond the assignment. What I want you to do is to first, do the assignment as written. Save a copy. Then, make all the enhancements and modifications that you'd like to your copy.

WRITTEN LAB REPORT:

In addition to the implementation described below, you will be asked to submit a written report for this lab.

Many of the exercises below ask you to improve your code step-by-step. For each improvement that you make, you should include a paragraph in your report that states:

- The problem number
- The change that you made
- Why this change improves your code. Note: I expect that your description for why this improves your code will include many of the important facts discussed in the textbook. **READ IT**!!!!

CODING

- Do the following exercises in the book: 6.5 - 6.18 & 6.20- 6.26. Note that you will need a Driver class to run the game. Below are some extras you should do/pay attention to as you do so
    - 6.5 - 6.7
    - 6.8 While the book suggests otherwise, I recommend that you leave your old setExits (plural) method alone and just add the new setExit (singular) method. (By the way, you're going to have to read the book to figure out exactly what you need to do in this and many other problems! Please don't skip this step. This chapter has a lot of really fantastic stuff and it will help you for years to come if you read it carefully. Also, you need to read it to make clear notes in your written report as to what you did)
    - 6.9
    - 6.10 (This goes in your lab report)
    - 6.11 (Again, READ and figure out what you have to do. Note changes in lab report)
    - 6.12 & 6.13 are for your lab report only
    - 6.14
    - 6.15 (Make sure you include a good javadoc comment that explains what your new command does and also explain it in your lab report.) Include the word **extra** as part of your method name so that I can search for it easily in your code
    - 6.16
    - 6.17 (Lab report only)
    - 6.18
    - 6.19 - Feel free to do this, but it's optional
    - 6.20
    - 6.21 - If you do decide that you need to make changes in your implementation for this step, describe in writing what they are and why you need them.
    - 6.22
    - 6.23 - The implementation of your back command should be in your Game class, though you will need to add the "back" keyword to your CommandWords class as well
    - 6.24
    - 6.25 - This goes in your report - you may or may not think it's sensible - just tell me why
    - 6.26 - This appears to be much harder than it actually is. Here are some hints:
        - Step 1: You need to understand what a stack is. The first two paragraphs of this wikipedia page are pretty good.
        - Step 2: Go find the description of the stack class in the Java Class Libraries - figure out how to use Stack in Java. (Don't forget you will need to add another import command!)
        - Step 3: Figure out how a stack helps you implement this command.