COMP 1451 Lab 3-a (2 points)

This lab is meant to be done with a partner. The purpose of the lab is to refactor a poorly-designed project so as to increase cohesion and decrease coupling. YOU NEED YOUR TEXTBOOK FOR THIS LAB.

This lab requires reading and working through the first part of Chapter 6, sections 6.1 through 6.7. Download the "zuul-bad" project from the Chapter 6 folder in shareout. This project is an example of poor class design. Follow the instructions below. You do not need to create a different room layout, just work with the existing one.

Section 6.1 : Open the project and explore it by doing **Exercises 6.1 & 6.2**. Be sure to draw a map of all the rooms so that you can use it to test the changes you will make later.

Section 6.2 : Read. You don't need to design your own game scenario at this point.

Section 6.3 : Read.

Section 6.4 : Read. **Remove duplicate code to increase cohesion.** The Game class contains an example of code duplication, an indicator of poor cohesion. Locate the methods with the duplicated code. This code should be in a single method that does only one thing, e.g. returns or displays information about the current location. Do **Exercise 6.5** - Implement a `printLocationInfo` method and remove the duplicate code from the original methods. Test to be sure the project functions as before.

Section 6.5 : Read.

Section 6.6 : Read. **Decrease coupling and increase flexibility** – The Game and Room classes are tightly coupled, with the Room class allowing direct access to its instance variables. Modify Room and Game classes to decrease the coupling between the classes, **Exercises 6.6, 6.7 & 6.8**. Test to be sure the project functions as before.

Section 6.7 : Read. **Object responsibility –** Make the Room class responsible for preparing information about its exits, **Exercise 6.11**.

Work through the rest of the chapter at home.

Demonstrate your completed project to your instructor or TA before leaving the lab and be sure we have checked it off for each member of the team. Put it into the dropbox when finished. A suggested solution will be given during the next class and labs that have not been checked off will not receive any points.