

# CS161: Introduction to Computer Science

## Lab Assignment 7

### Rock, Paper, Scissors...and beyond

In this lab, you'll practice using `while` loops, conditionals, random numbers, and the (ever useful) `Scanner` class to implement the game of Rock, Paper, Scissors as described in the book's programming project 5.7.

Once you have the basic version of the game implemented, you will then extend it and implement Rock, Paper, Scissors, Lizard, Zombie, Spock, and the Large Hadron Collider.

### Getting Started

Create a new BlueJ project named `lab7`. For this lab, you'll create two Java classes. The first class, `RockPaperScissors` is responsible for implementing the game. The second Java class, `GameController`, has a `main` method that creates a game and calls the `play` method. Look back at last's weeks Secret Number Game for an example.

The game should repeat for as long as the user wants to continue, and cease when the user no longer wants to play. It's up to you how you choose to prompt the user to continue or quit – e.g., you could prompt the user with “Enter an action (or 'q' to quit)”. Use a random number generator and conditionals to choose the computer's gesture first, then use the `Scanner` class to get the user's gesture.

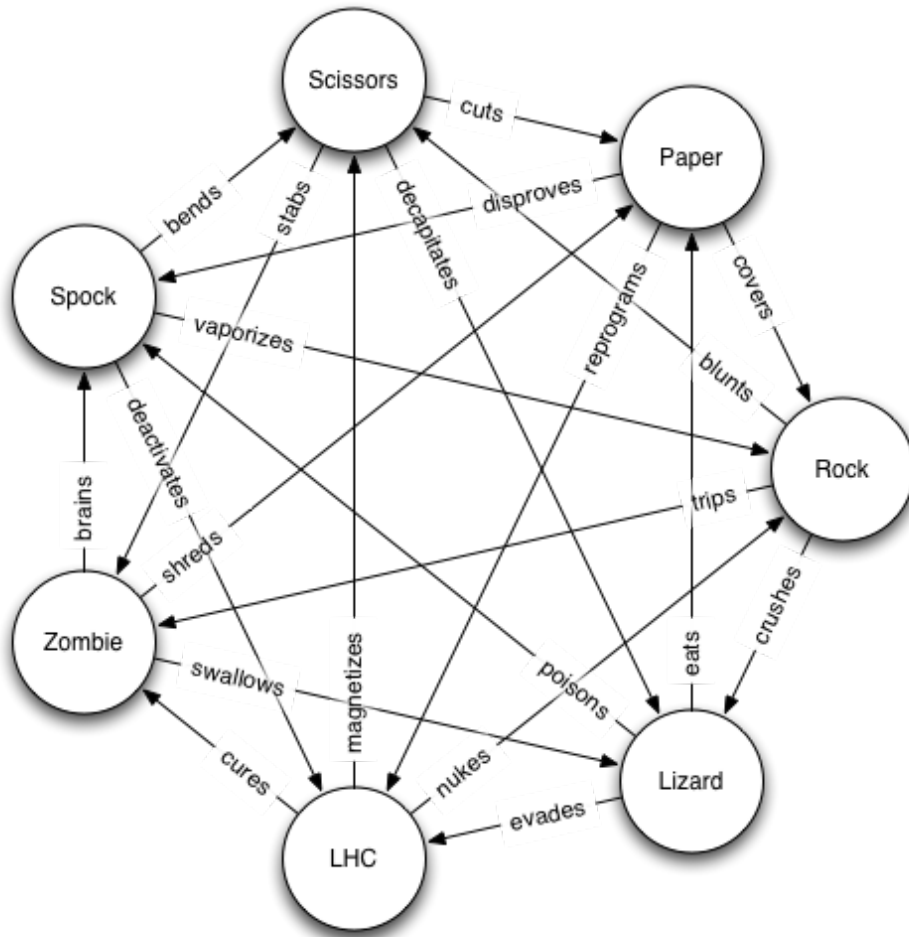
Your program should keep track of the total games played, the number of user wins, the number of computer wins, and the number of ties. Don't use more instance variables than are necessary to maintain the required information.

At the end of the game, when the user quits, have your program output a summary of how well the user did against the computer. You can choose how to represent this information and what specific details to include.

Once you're done, go on to the next page!

## Extending the Basic Game

Once you have the basic game implemented, you should extend it to include lizards, zombies, Spock, and (of course) the large Hadron collider! (You might want to first read the Wikipedia page on the large Hadron collider so you know just what you're working with). The image below shows what trumps what in this new version of the game:



You can click [here](#) for more information on the hand gestures that go along with each action.

## Submitting your lab assignment

Your lab7 folder should have both the RockPaperScissors and GameController classes inside. Don't forget to rename your folder before zipping and submitting on Moodle.