Instructions

- Download Lab_4.py from Sakai.
- The only deliverable for this lab is to upload your completed program as an Assignment on Sakai. The deadline for uploading your program is 5pm Friday.
- Program files submitted through the Sakai Assignment page must use the following naming format:
  - Lastname_Firstinitial_Lab_lab#.py
  - For example, for Lab #3, my file would be named: *Thomas_S_Lab_4.py*
- All programming assignments must follow the Style Guide and include meaningful comments.

I. The program you have downloaded plays Rock-Paper-Scissors against a human (you). The instructor will go over the details with you to help you understand how it works. Don't go to step II until you understand exactly how it works.

II. A contemporary version of this decision-making process is Rock-Paper-Scissors-Lizard-Spock. Your challenge is to take what you have learned from the Lab_4 program and extend it to play Rock-Paper-Scissors-Lizard-Spock. Just in case you haven't mastered this complex game here is a description straight from Wikipedia and a diagram that should help:

The rules of Rock-paper-scissors-lizard-Spock are:

- Scissors cut paper
- Paper covers rock
- Rock crushes lizard
- Lizard poisons Spock
- Spock smashes (or melts) scissors
- Scissors decapitate lizard
- Lizard eats paper
- Paper disproves Spock
- Spock vaporizes rock
- Rock breaks scissors

There are ten possible pairings of the five gestures; each gesture beats two of the other gestures and is beaten by the remaining two.

Another diagram, displaying clockwise from top: Scissors, Paper, Rock, Lizard, Spock.

In order to represent the 5 options in a program I suggest using the following assignments:

0 – rock 1 – spock 2 – paper 3 – lizard 4 – scissors

You'll have to figure out the mathematical relationship that indicates a winner or loser.

III. Once your program plays the game correctly, make the following enhancement. Place all of your program steps (excluding function defintions) in a loop that will execute 10 times. That is, your program should automatically play the game 10 times and then terminate.

IV. OPTIONAL. If you finish the first three steps quickly you can make the following additional minor enhancement. Have your program count the number of ties, human wins, and computer wins in a round of 10 plays. Print out the results after the ten games have been played.

- Upload your completed program to Sakai → Assignments

SCORING RUBRIC:

3 pts – Program runs with no syntax errors.

3 pts – number2string function works correctly

1 pt - number2string has appropriate comment string

3 pts – string2number function works correctly

1 pt - string2number has appropriate comment string

2 pts - Program prints "Human chooses XXX" where XXX is a string of the form "rock", "paper", "scissors", "lizard" or "Spock".

2 pts - Program prints "Computer chooses XXX" where XXX is a string of the form "rock", "paper", "scissors", "lizard" or "Spock".

2 pts - Program prints an appropriate message such as “It’s a tie!", "Player wins!" or "Computer wins!" to report outcome.

3 pts - Program chooses correct winner according to the rules given above.