

CS 210
Assignment 03

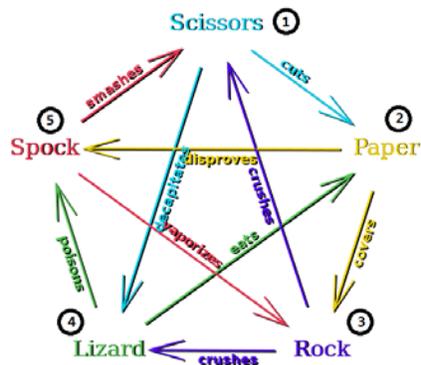
September 8, 2016
Due: September 15, 2016

Reminder: This is a programming project, and work on this assignment should be done individually. Assistance from other students is limited to questions about specific issues as noted in the syllabus.

If you look up the game "rock, paper, scissors" on Wikipedia you will find a number of variations. One such variation is described as follows:

One popular five-weapon expansion is "Rock-paper-scissors-lizard-Spock", invented by Sam Kass and Karen Bryla, which adds "Spock" and "lizard" to the standard three choices. "Spock" is signified with the Star Trek Vulcan salute, while "lizard" is shown by forming the hand into a sock-puppet-like mouth. Spock smashes scissors and vaporizes rock; he is poisoned by lizard and disproven by paper. Lizard poisons Spock and eats paper; it is crushed by rock and decapitated by scissors. This variant was mentioned in a 2005 article of *The Times* and was later the subject of an episode of the American sitcom *The Big Bang Theory* in 2008.

The majority of such proposed generalizations are isomorphic to a simple game of modulo arithmetic, where half the differences are wins for player one. For instance, rock-paper-scissors-lizard-spock may be modeled as a game in which each player picks a number from one to five. Subtract the number chosen by player two from the number chosen by player one, and then take the modulo 5 of the result. Player one is the victor if the difference is one or two, and player two is the victor if the difference is three or four. If the difference is zero, the game is a tie.



Write a program to play a single game of "rock, paper, scissors, lizard, Spock".

The user will enter integers to indicate to indicate her choice with 1 = scissors, 2 = paper, 3 = rock, 4 = lizard, and 5 = Spock. Your program will issue brief instructions and accept inputs from "Player 1" and "Player 2". Your program should then print the result indicating which player wins or if there is a tie.

Typical program output might look like this:

```
Welcome to "Rock, Paper, Scissors, Lizard, Spock"!
Choose 1 for scissors, 2 for paper, and 3 for rock, 4 for lizard,
and 5 for Spock.
Player 1: 1
Player 2: 5
Spock smashes scissors. Player 2 wins.
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Your program must have *at least* three functions: one function to explain the play, a second to print the menu, and a third to obtain the input.

Turn in a zipped project file. Name your zipped file Asn03XXX.zip where XXX are your three initials. Upload your zipped project file to \\cecsfp01\users\everyone\CS210.