

CS 161

Programming Lab 7

Instructions

These two problems are to help you develop the ability to create multi-function programs.

Rock, Paper, Scissors

Create a version of the Rock, Paper, and Scissors game using functions. The game must:

- 1) Display a clear set of instructions to the user
- 2) Input R, P, or S from the user. Validate the input, if incorrect continually prompt the user to re-enter until correct. Either upper or lower case is ok.
- 3) Display clear output describing the outcome of the game including the user's pick, the computer's pick and the winner,
- 4) Ask the user if he/she would like to play again and repeat the entire game again as necessary.

You need to have at least the following four functions:

displayInstructions — no inputs, displays the instructions

getMove — no inputs, get move from user and validate, return lower case char ('r','p','s')

getWinner — inputs are two chars (user move and computer move)

return 1 for user win, 2 for computer win, 3 for tie

playAgain — no inputs, return true if the user wants to go again, false if they do not

Your program should have appropriate comments (including at least one per function) and you should use constants where appropriate. All input should be validated.

Guess My Number

Create a multi-function version of the Guess My Number game. Your game should generate a random number between 1 and 99, ask the user for a guess, and respond to each guess with correct, too high, or too low as needed. Once the user guesses the number correctly, report how many guesses it took and ask if they want to play again.

You need to have at least the following three functions:

displayInstructions — no inputs, displays the instructions

getNumber — inputs are min and max, returns a random number between min and max

getMove — inputs are min and max, gets, validates, returns an integer from the user that is between min and max

playAgain — no inputs, return true if the user wants to go again, false if they do not

Your program should have appropriate comments (including at least one per function) and you should use constants where appropriate. All input should be validated.