Programming Exercise 7.8

The Rock-Scissors-Paper Game, v.1.0

Purpose. Bring together all you've learned so far, about values, variables, sequential processing, code blocks, ifs and loops. The game is played between the computer and a human player.

Requirements. Write a computer game based on **rock-paper-scissors**. (for reference: www.worldrps.com.) Name the source file **`rcp1.py`**.The 2-player game will be interactive: human vs. computer!

Making the game interactive presents a new issue for us -- how do we get the computer's choice? To solve this, we will use a "random number generator", which is the basis for all computer gaming. This enables the properly programmed computer to act like it is actually "thinking" and making its own decisions.

In the coding for this game you will use code blocks, loops, and if and/or switch structures. Organizing code into "code blocks" will prepare you for moving code blocks into functions in future studies.
The game will replay until the human player decides to quit. Human input will be through the keyboard, entering **R** or **r** for rock, **P** or **p** for paper, **S** or **s** for scissors, or **Q** or **q** to quit. Computer input will be randomly generated.

Add score keeping to the game to track the numbers of computer wins and human wins -- do not count ties. Output the numbers of computer wins and human wins after all play ends.

Supplemental. Read about "randomizing" in
http://www.rdb3.com/python/exercises/Gaming.supplemental.pdf.
Algorithm.

```
  // initialize the computer's random number generator
  // declare variables to track numbers of human and computer wins
  // start loop
    // determine computer's choice
    // prompt for, and read, the human's choice
    // if human wants to quit, break out of loop
    // determine the winner
// end loop
// print numbers of human wins and computer wins
```

Example. Here is sample output for the game, with the input prompt in blue, the human response in red, and the results in green: *Do not color code your I/O!*

```
Choose: [Rock,Paper,Scissors,Quit]: p
Computer:S, Human:P, Computer wins

Choose: [Rock,Paper,Scissors,Quit]: p
Computer:P, Human:P, tie

Choose: [Rock,Paper,Scissors,Quit]: q
Computer wins: 1
Human wins: 0
```