The purpose of this assignment is to give you some experience using the sockets API.

For this exercise, you are to write two programs - a “client” program and a “server” program. The two programs will communicate with each other via sockets. The two programs can be designed to both work on the same machine, or on two different machines - your choice.

The programs will play the game “rock-scissors-paper.” The client will interact with the user, who will play against the computer. It should accept a guess from the user, player one, and then generate a guess for player two. This process should report individual game results to the user. It should also send messages to the server concerning the results of each game.

The server will act as the scorekeeper - it will receive messages from the client containing the player’s guesses and keep track of how many times each of the two players wins the game.

The messages that are sent from client to server should look something like:

```
gamenum guess1 guess2
```

where `gamenum` is the game number, and `guess1` and `guess2` are the players’ guesses, one of:

- `r` - rock
- `s` - scissors
- `p` - paper
- `q` - quit the game

When the “quit” message is sent to the server, it should report the final score and terminate.

One IP address - 127.0.0.1 - is designated to be the “local loopback” address. That is, this address can be used for a machine to communicate with itself. This facilitates testing, since both client and server can reside on the same machine. Alternately, a client on a machine can access a server on the same machine by specifying its own IP address - in this case, the request “leaves” the machine and then “reenters” the same machine, which is usually a slightly more rigorous test than local loopback.