HW1: Programming Exercise (Individual submissions)

This HW is to let you explore the socket programming interface in python. This exercise will serve as the foundation for the upcoming programming projects. A sample working code is given to you in HW1.py. The program consists of server code and client code written as two separate **threads**. Understand the functionality implemented in the program. First, download, save and execute the program as is in your environment. Make sure it executes successfully. Then, for your HW submission you need to do the following:

1. Separate server code and client code into two different programs Server.py and Client.py and then execute the server program first and then execute the client program. You should still get the same set of print messages as in the combined threaded code (HW1.py)
2. In the given code, the client connects to the server and the server just sends a message string back to the client. Modify the program so that the client sends a string to the server and then the server **reverses** the string and sends it back to the client. If the client sends "HELLO" to the server, the client should receive "OLLEH". Your program should print the string sent by the client and the corresponding string received by the client. Your client program should be able to read a string (each line is a string) from a test file (say, HW1test.txt). Similarly, the output of your program should be written to a file (say, HW1out.txt)
3. What to Submit: You should submit client.py, server.py and HW1out.txt. You will be given a test file (HW1test.txt) consisting of strings (one per line). Make sure your code is well documented.
4. **Note: This exercise is a HW and as such should be done and submitted individually.**