HW1: Programming Exercise (Individual submissions) DUE February 10, 2020

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 word to the server and then the server replaces each character in the word with its ASCII VALUE and sends the ASCII values as a string back to the client. If the client sends "HELLO" to the server, the client should receive "72_69_76_76_79". Your program should print the string sent by the client and the corresponding string received by the client.
3. Modify the client code so that the client can read a string (each line is a word) from a test file (say, HW1test.txt) and output the received string to a file (say, HW1out.txt).
4. Assume the input file will contain ONE word per line
5. 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). **Please create a zip to put these 4 files (i.e., client.py, server.py, HW1test.txt and HW1out.txt); the zip file name should be 'hw1_' + your NetID (e.g., 'hw1_aa111'). Please zip all the four files and submit the zip compressed file ONLY (e.g., 'hw1_aa111.zip')! Make sure you follow the above naming convention.** Make sure your code is well documented.
6. **Note: This exercise is a HW and as such should be done and submitted individually.**