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CS 576 Spring 2017

Program 1 Due 2/26/17

**Program 1: TCP Socket, Client - Server**

server.py

#!/usr/bin/python

# Gary Williams

# CS 576

# Prog 1 Due 2/26/17

# This is a basic server TCP socket connection.

# It connects to the localhost and specified port

# and listens for packets with a max 256 characters.

# The string is encoded by changing each character

# to the next character in the ASCII table by default.

# If the string is prefaced by a 'D', then the string

# is decoded by doing the opposite.

# Directions: Change host to local machine or other.

# Run and wait for output for successful connection

# or error.

import socket

import sys

HOST = 'nibbler' #localhost used for dev

PORT = 5760

s = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

# Enclosed bind in try block to catch busy port

try:

s.bind((HOST, PORT))

except Exception as inst:

print inst

print 'Host: ' + HOST + ' Port: ' + str(PORT)

sys.exit(0)

s.listen(1)

conn, addr = s.accept()

print 'Connected by ', addr

tmpRay = []

fixed = []

while 1:

data = conn.recv(256)

if not data: break

print 'Received: ', data

ray = list(data)

for i in ray:

tmpRay.append(ord(i))

if tmpRay[0] == 68: # Test for 'D'

new\_list = [x-1 for x in tmpRay]

new\_list = new\_list[1:]

else:

new\_list = [x+1 for x in tmpRay]

for i in new\_list:

fixed.append(chr(i))

conn.sendall(''.join(fixed))

conn.close()

client.py:

#!/usr/bin/python

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# This is basic TCP client socket.

# It prompts the user for a string to send to the server to be encoded

# and returned. It specifies special instructions for performing the

# reverse functionality.

# Directions: Change host to local machine or other. Run and answer

# the prompt to send the message to be encoded by the server and

# returned by default. Specify 'D' to decode the message and perform

# the opposite functionality.

import socket

HOST = 'nibbler'

PORT = 5760

msg = raw\_input("Enter msg < 256 characters('D' first letter to decode): ")

s = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

s.connect((HOST, PORT))

s.sendall(msg)

data = s.recv(256)

s.close()

print 'Received ', repr(data)



