Valeriy Kutsar Socket 1

Server and client files for TCP

```python
#This server is for tcp
from socket import *
serverPort = 13001 #use soemthing different than the udp code
serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind(('', serverPort))
serverSocket.listen(1)
print ("the server is ready to recieve")
while 1:
    connectionSocket, addr = serverSocket.accept()

    sentence = connectionSocket.recv(1024).decode()
    capitalizedSentence = sentence.upper()
    connectionSocket.send(capitalizedSentence.encode())
    connectionSocket.close()
```

```python
#This client is for tcp
from socket import *

serverName = 'localhost' #'130.86.66.66'
serverPort = 13001
clientSocket = socket(AF_INET,SOCK_STREAM)
clientSocket.connect((serverName, serverPort))
sentence   = input('input lowercase sentence: ')
clientSocket.send(sentence.encode())
modifiedSentence = clientSocket.recv(1024).decode()#utf-8
print ('from server: ', modifiedSentence)
clientSocket.close()
```

Tcp server and client running

```
PS C:\Users\valeriyk> cd Documents/csc138/tcp
PS C:\Users\valeriyk\Documents\csc138\tcp> ls


    Directory: C:\Users\valeriyk\Documents\csc138\tcp


Mode                LastWriteTime         Length Name
----                -------------         ------ ----
-a----        2/28/2018   3:39 PM            402 client.py
-a----        2/28/2018   3:39 PM            476 server.py


PS C:\Users\valeriyk\Documents\csc138\tcp> python server.py
the server is ready to recieve
```

Windows PowerShell   —   □   ✕

```
PS C:\Users\valeriyk\Documents\csc138\tcp> python client.py
input lowercase sentence: the tcp server is running
from server:  THE TCP SERVER IS RUNNING
PS C:\Users\valeriyk\Documents\csc138\tcp> python client.py
input lowercase sentence: hello, world!
from server:  HELLO, WORLD!
PS C:\Users\valeriyk\Documents\csc138\tcp>
```

Server and client for UDP

```
client.py  C:\...\tcp        server.py  C:\...\tcp        server.py  C:\...\udp  ✕        client.py  C:\...\udp
  1    #this server is for udp
  2    import os
  3    from socket import *
  4
  5    serverPort = 12001
  6    serverSocket = socket(AF_INET, SOCK_DGRAM)
  7    serverSocket.bind(('', serverPort))
  8    print ("the server is ready to recieve")
  9    while 1:
 10        message, clientAddress = serverSocket.recvfrom(2048)
 11        modifiedMessage = message.decode().upper()
 12        serverSocket.sendto(modifiedMessage.encode(), clientAddress)
 13
 14    #nums = range(2,50)
 15    #for i in range(2,8): nums = filter(lambda x: x == i or x % i, nums)
 16
 17    #make the server run first
 18    #print nums
 19
 20
```

```
client.py  C:\...\tcp        server.py  C:\...\tcp        server.py  C:\...\udp        client.py  C:\...\udp  ✕
  1    #This client is for udp
  2
  3    from socket import *
  4
  5    serverName = 'localhost' #130.86.66.66' #ip
  6    serverPort = 12001
  7    clientSocket = socket(AF_INET, SOCK_DGRAM)
  8    message = input("input lowercase sentence: ")
  9    clientSocket.sendto(message.encode(),(serverName, serverPort))
 10    modifiedMessage, serverAddress = clientSocket.recvfrom(2048)
 11    print ('modified message: ' ,  modifiedMessage.decode())
 12    clientSocket.close()
 13
```

UDP server and client run

```
Windows PowerShell
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PS C:\Users\valeriyk> cd Documents/csc138/udp
PS C:\Users\valeriyk\Documents\csc138\udp> python server.py
the server is ready to recieve
```

```
Windows PowerShell
PS C:\Users\valeriyk\Documents\csc138\udp> python client.py
input lowercase sentence: hello, world!
modified message:  HELLO, WORLD!
PS C:\Users\valeriyk\Documents\csc138\udp> python client.py
input lowercase sentence: udp server is running
modified message:  UDP SERVER IS RUNNING
PS C:\Users\valeriyk\Documents\csc138\udp>
```