LAB 14 Program 1

Using TCP/IP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

Observation:

to make client sending the file name of server to send back the contents of the degreested file it present. Client TCP. Py from socket suport * servername = 127.0.0.1" Servert post = 12000 · clientsocket = socket (AF-2NET, SOCK - STREAM) client Socket. connect = ((sexvername, sexver post)) sentence = input ("In Entel file name! ") clant Socket. send (sentence. encode (1) frecontents = clientSocket. secv (1024); de coder) point ('Infrom Server: \n') point (file contents) client Socket. abbe () Servettop.py from socket impost & Sirva Name = "127.0.0.1" serve post = 12000 served Socket . socket (AF-INET, SOCK STREAM) Servel Socket bind ((servelname, servelport))

scovasocket. (isten(1) white 1! point ("The server TS seady to seceive"). connection Societ, builds = servasoulet, a coupt () sentence = connection Socket. secv (1024). decodels file = open (sentence, "8") l= file. read(1024) connection socket. send (1. encode(1) pond ('In sent contents of '+ sentence) file dosel connection Suket. close() output Scovel sider The servel 75 ready to receive client Golet Estel file name! ServerTcp.py The contents of file sexuaTCP is obsphaged hele Servel sidel-Sent contents of serverTCP.Py.

SOLUTION:

```
ClientTCP.py from socket import * serverName = '127.0.0.1' serverPort = 12000 clientSocket = socket(AF_INET, SOCK_STREAM) clientSocket.connect((serverName,serverPort)) sentence = input("\nEnter file name: ") clientSocket.send(sentence.encode()) filecontents = clientSocket.recv(1024).decode() print ('\nFrom Server:\n') print(filecontents) clientSocket.close()
```

ServerTCP.py

```
from socket import * serverName="127.0.0.1"

serverPort = 12000 serverSocket =

socket(AF_INET,SOCK_STREAM)

serverSocket.bind((serverName,serverPort))

serverSocket.listen(1) while 1:

print ("The server is ready to receive")

connectionSocket, addr = serverSocket.accept()

sentence = connectionSocket.recv(1024).decode()

file=open(sentence,"r")

l=file.read(1024)

connectionSocket.send(l.encode())

print ('\nSent contents of ' + sentence)

file.close() connectionSocket.close()
```

OUTPUT:

```
Client:
```

```
IDLE Shell 3.10.8
File Edit Shell Debug Options Window Help
    Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
    Type "help", "copyright", "credits" or "license()" for more information.
>>>
    = RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python310/clientTCP.py =
    Enter file name:serverTCP.py
    From Server:
    from socket import *
    serverName = "127.0.0.1"
    serverPort = 12000
    serverSocket = socket (AF INET, SOCK STREAM)
    serverSocket.bind((serverName, serverPort))
    serverSocket.listen(1)
    while(1):
       print("The server is ready to recieve")
        connectionSocket,addr=serverSocket.accept()
        sentence = connectionSocket.recv(1024).decode()
       file = open(sentence, "r")
        1 = file.read(1024)
        connectionSocket.send(l.encode())
        print('\nsent contents of'+sentence)
        file.close()
        connectionSocket.close()
```

```
= RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python310/clientTCP.py =
    Enter file name:aab.py
    From Server:
    Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
    Type "help", "copyright", "credits" or "license()" for more information.
    class Node:
        def _init_(self,data):
            self.data=data
            self.left=None
            self.right=None
            self.height=1
    class AVL Tree:
        def getHeight(self,root):
            if not root:
               return 0
            return root.height
        def getBalance(self,root):
            if not root:
                return 0
            return self.getHeight(root.left)-self.getHeight(root.right)
        def rightRotate(self,z):
            v=z.left
           T3=y.right
           y.right=z
            z.left=T3
            z.height=1+max(self.getHeight(z.left),self.getHeight(z.right))
            y.height=1+max(self.getHeight(y.left),self.getHeight(y.right))
           return y
        def insert(self,root,data):
            if not root:
                return Node (data)
            if data < root.data
               root.left=self.insert(root.left,data)
            else:
                root.right=se
>>>
```

Server:

```
File Edit Shell Debug Options Window Help

Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit ( AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> 
= RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python310/serverTCP.py = The server is ready to recieve

sent contents ofserverTCP.py
The server is ready to recieve

sent contents ofaab.py
The server is ready to recieve
```

Program 2

Using UDP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

Observation:

```
program & make client sending filename, the served to send back the contents of the
     orequested tile it possent.
     Cliendupp. py
   s toom socket impost &
     SovelName = "127-0.0.1"
  · Serva Post = 12000
      client socket = socket (AF_2NET, Sock-DURAN)
    sentence = mput ("In Enter file name!")
  « chentsocket. sendto (bytes (sentence, "ut f-8"), (se svon
        -ame, Selver Po 24))
  filecontents, exvatodoess = client Socket. secvfrem (2018)
  point ('In Reply from Server In')
 point (Alecontents. decode ("Utf-8"))
 # for in filecontents!
 # point (sto(i), end = ")
  client socket. close ()
  chartsocket. close
ServelUDP. Py
from socket import +
28 vel post = 12000
```

served socket = socket (Af-2NET, SOCIC_DORAM) gesva soubet. blud (("127.0.0.1", serva Post)) point ("The server is orandy to seceive") while 1: sentence, chent Address = server Socket, secrtoon (201) gentence: sentence. ducade ("orf-8") file = open (sentence, " o ") con = file. Dead (2048) servalocket - sand to (bytes (van, "Utf-8"), coment Addsus) point (4) n Sent contents of , end= "") posit (sentence) at for i in sentence! It point (sto(), and = ") file.close() serva side The server & ready to Decleve. client side Esta file name; servalUDP. Py The contents of the Atle ScoveUDP ale displayed hele. Serva lible Sant contents of Servel UDP. Py

SOLUTION:

```
ClientUDP.py from socket import * serverName = "127.0.0.1"
serverPort = 12000 clientSocket = socket(AF INET,
SOCK DGRAM) sentence = input("\nEnter file name: ")
clientSocket.sendto(bytes(sentence,"utf-8"),(serverName, serverPort))
filecontents, serverAddress = clientSocket.recvfrom(2048)
print ('\nReply from Server:\n') print
(filecontents.decode("utf-8")) # for i in filecontents:
  # print(str(i), end = ")
clientSocket.close()
clientSocket.close()
ServerUDP.py
from socket import * serverPort = 12000
serverSocket = socket(AF INET, SOCK DGRAM)
serverSocket.bind(("127.0.0.1", serverPort))
print ("The server is ready to receive")
while 1:
   sentence, clientAddress =
   serverSocket.recvfrom(2048) sentence =
   sentence.decode("utf-8") file=open(sentence,"r")
   con=file.read(2048)
   serverSocket.sendto(bytes(con,"utf-8"),clientAddress)
   print ('\nSent contents of ', end = ' ') print (sentence)
  # for i in sentence:
```

```
# print (str(i), end = ")
file.close()
```

OUTPUT:

Client:

```
= RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python310/clientUDP.py =
    Enter file name: serverUDP.py
    Reply from Server:
    from socket import *
    serverPort = 12000
    serverSocket = socket (AF INET, SOCK DGRAM)
    serverSocket.bind(("127.0.0.1", serverPort))
    print ("The server is ready to receive")
    while 1:
         sentence, clientAddress = serverSocket.recvfrom(2048)
         sentence = sentence.decode("utf-8")
         file=open(sentence, "r")
         con=file.read(2048)
         serverSocket.sendto(bytes(con, "utf-8"), clientAddress)
        print ('\nSent contents of ', end = ' ')
        print (sentence)
        # for i in sentence:
            # print (str(i), end = '')
         file.close()
>>>
```

Server:

```
>>> = RESTART: C:/Users/Admin/AppData/Local/Programs/Python/Python310/serverUDP.py = The server is ready to receive

Sent contents of serverUDP.py
```