Lab-10

1) Using TCP/IP sockets, write a client-server program to make client sending the file name and the server to send back contents.

=)

Procedure = To execute this program, IDLE python should be used. Select IDLE file in search. Go to new file and the code executed can be seen below.

2) Server has a bind() method which binds specific IP and port so that it can listen to incoming requests that IP and port.

3) Server has a listen() method which puts the server into listening mode

4) It has an accept and close method where accept initiates a connection with a client and close method closes the connection with the client

Code:

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("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('\n Sent contents of ' + sentence)
```

file.close()
connectionSocket.close()

5) Next we apply client code

Code:

```
client: from socket import *
        server port = 12000
        clientSocket = socket(AF_INET, SOCK_STREAM)
        clientSocket.connect((ServerName, serverPort))
        sentence = input("\n Enter file Name")
        clientSocket.send(sentence.encode())
        fileContents = clientSocket.recv(1024).decode()
        print("\n From Server:\n")
        print(fileContents)
        clientSocket.close()
```

Observation = When we run the server code, the output displayed was "Server is ready to receive"

Then we run the client code,

→ Enter file name: new.py

→ From Server: The whole contents was displayed

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Output

Server: The server is ready to receive.

Sent contents of new.py.

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

→1

Server code:

```
from socket import *
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", serverport))
print("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("\n Sent contents", end=' ')
    print(sentence)
    # for i in sentence
    #     print(str(i), end="")
    file.close()
```

Client code:

```
from socket import *
serverName = '127.0.0.1'
serverPort = '12000
clientSocket(AF_INET, SOCK_DGRAM)
sentence = input("Enter file Name")
clientSocket.sendto(bytes(sentence, "utf-8"
    (serverName, serverport))
```

file contents, server address = clientSocket.
recvfrom(2048)
print ("\n Reply from Server\n");
print(filecontents . decode ("utf-8"))
# for i in filecontents;
#print (str(i), end="")
clientSocket. close()
clientSocket. close()

(Observation)
Outputs Client:
-> Enter file name: server.py
-> Reply from server: All the contents were displayed

Server: The server ready to receive
Sent contents of server.py

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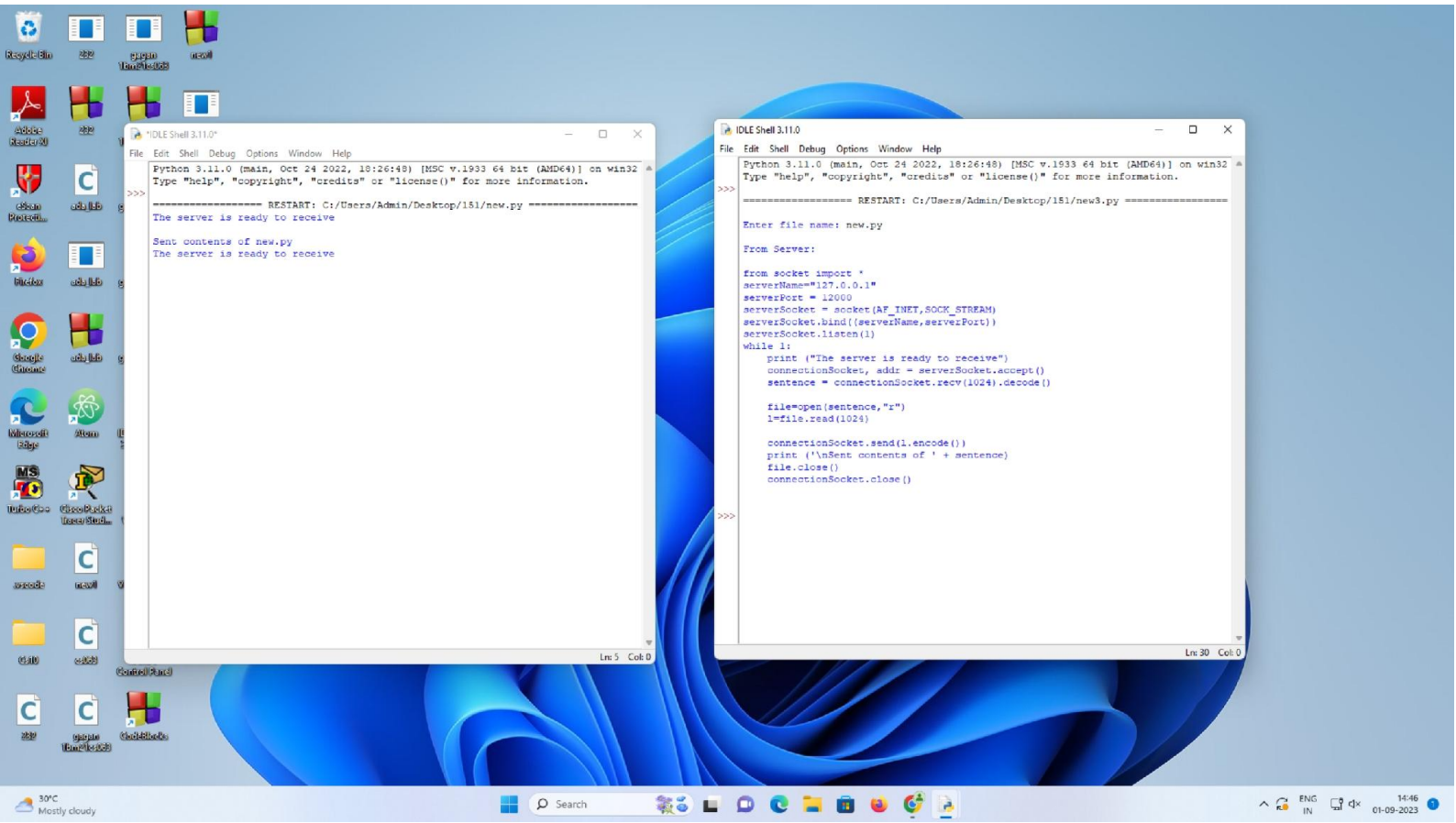
IDLE Shell 3.11.0
File Edit Shell Debug Options Window Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Admin/Desktop/151/new.py ==========
The server is ready to receive
Sent contents of new.py
The server is ready to receive
Ln: 5 Col: 0
IDLE Shell 3.11.0
File Edit Shell Debug Options Window Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Admin/Desktop/151/new3.py ==========
Enter file name: new.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 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()
>>>
Ln: 30 Col: 0
Search
30°C
Mostly cloudy
ENG
IN
14:46
01-09-2023