

CYCLE-3

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

→ ClientTCP.py

```
from socket import *
ServerName = '127.0.0.1'
ServerPort = 12000
ClientSocket = socket(AF_INET, SOCK_STREAM)
ClientSocket.connect((ServerName, ServerPort))
Sentence = input("Enter file name:")
ClientSocket.send(Sentence.encode())
fileContents = ClientSocket.recv(1024).decode()
print("\n From server:\n")
print(fileContents)
ClientSocket.close()
```

ServerTCP.py

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9/9/23
9/9

```
from socket import *
ServerName = '127.0.0.1'
ServerPort = 12000
ServerSocket = socket(AF_INET, SOCK_STREAM)
ServerSocket.bind((ServerName, ServerPort))
ServerSocket.listen()
connectionSocket, address = ServerSocket.accept()
Sentence = connectionSocket.recv(1024).decode()
file = open(Sentence, "r")
data = file.read(1024)
connectionSocket.send(data.encode())
print("\n Sent contents of " + Sentence)
file.close()
connectionSocket.close()
```

Output:

1) TCP/IP socket

Run the file server.py

O/p => The server is ready to receive

This shows that our server is ready

Client:

Run the file client.py

O/p => Enter file name: server.py

Server: The server is ready to receive

Sent contents of server.py

The server is ready to receive

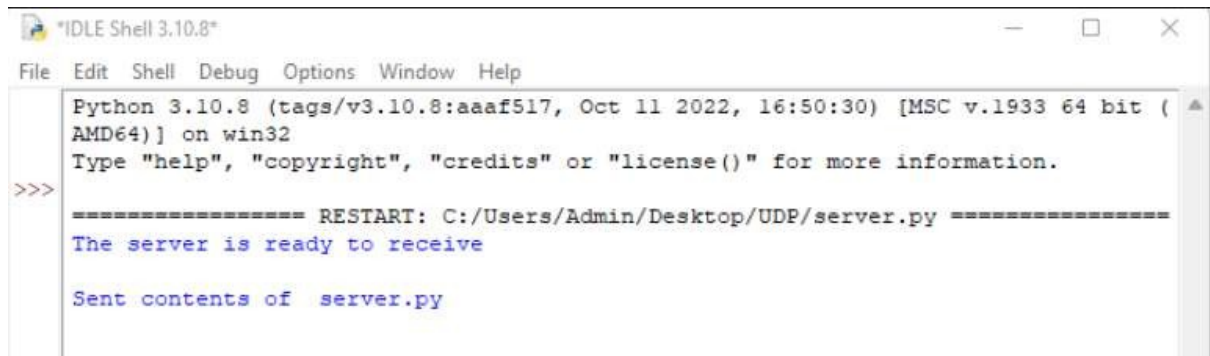
```
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Admin/Desktop/Client.py =====
Enter file name: Server.py

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()
```



The image shows a screenshot of the IDLE Shell 3.10.8 window. The title bar reads "IDLE Shell 3.10.8". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area displays the following output:

```
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/Desktop/UDP/server.py =====
The server is ready to receive

Sent contents of server.py
```

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

→ Client UDP.py

```
from socket import *
ServerName = "127.0.0.1"
ServerPort = 12000
ClientSocket = socket(AF_INET, SOCK_DGRAM)
Sentence = input("Enter file name:")
ClientSocket.sendto(bytes(Sentence, "utf-8"), (ServerName,
ServerPort))
file contents, ServerAddress = ClientSocket.recvfrom(2048)
print("Reply from server:\n")
print(file contents.decode("utf-8"))
# for i in file contents:
#     print(chr(i), end=" ")
ClientSocket.close()
ClientSocket.close()
```

Server UDP.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("Send contents of", end=" ")
    print(Sentence)
    file.close()
```

o/p?

8/10
N
9/9/23

Output

2) UDP sockets

O/P = Enter file name: server.py
Reply from server:

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

```
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/Desktop/UDP/client.py =====
Enter file name: server.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()
>>>
```

```
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/Desktop/Server.py =====
The server is ready to receive
Sent contents of Server.py
The server is ready to receive
```