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Second Year CS
Subject: **Programming Lab1**

Experiment No. 7

AIM: To write a code in which a client sends a file to a server and server saves the file and prints the file contents.

THEORY :

Socket Programming: Python socket programming allows communication between devices over a network using sockets, facilitating data exchange through client-server architecture. It's a versatile tool for building applications like chat programs and networked games.

The socket module in Python may be used to create an echo server and client. When a message arrives, the server code waits for incoming connections and echoes the message to the client. A connection is established with the server, a message is sent, and the client code shows the echoed answer.

CODE:

To write a code in which a client sends a file to a server and server saves the file and prints the file contents.

client.py

```
import os
import socket


client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
client.connect(("localhost", 9999))
file = open("sent.txt", "rb")
file_size = os.path.getsize("sent.txt")
```

```
client.send("received.txt".encode())
client.send(str(file_size).encode())

data = file.read()
client.sendall(data)
client.send(b"<END>")

print("File sent successfully")

file.close()
client.close()
```

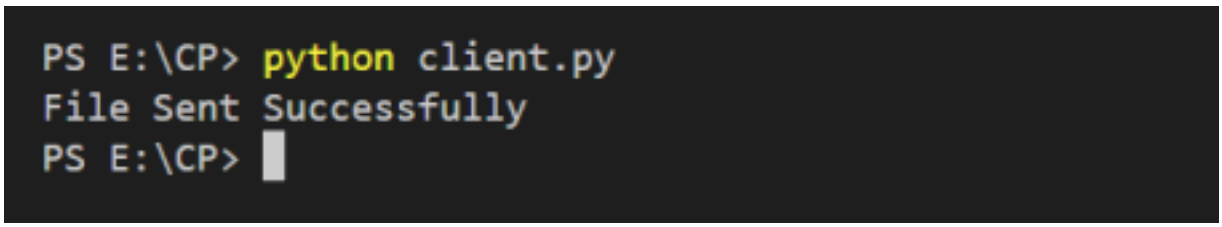
server.py

```
import socket

server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
server.bind(("localhost", 9999))

server.listen()

client, addr = server.accept()

file_size = client.recv(1024).decode()

file = open("recieved.txt", "wb")
file_bytes = b""

done = False
while not done:
    data = client.recv(1024)
    if(file_bytes[-5:] == b"<END>"):
```

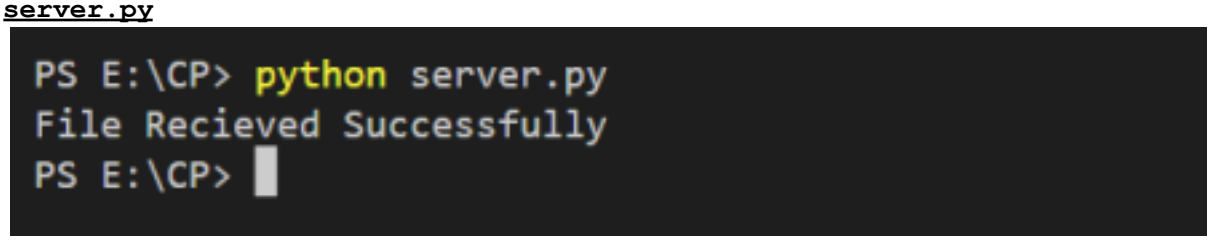
```
            done = True
        else:
            file_bytes += data

    file_bytes = file_bytes[:-5]
    file_bytes = file_bytes[2:]
    file.write(file_bytes)

    print("File Recieved Successfully")

    file.close()
    server.close()
    client.close()
```

OUTPUT:

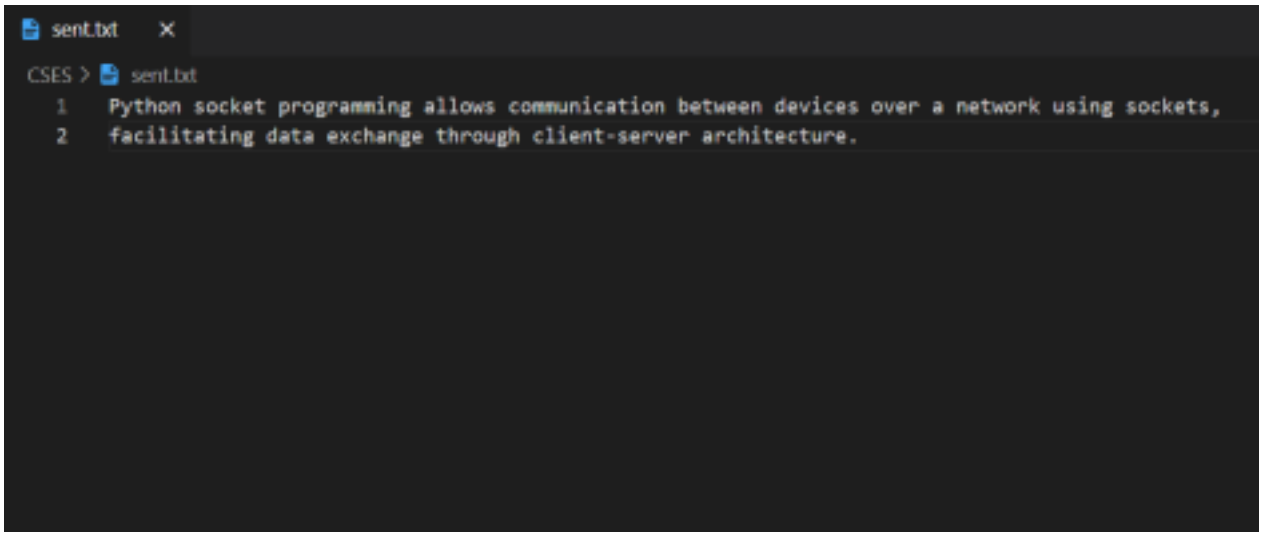
client.py



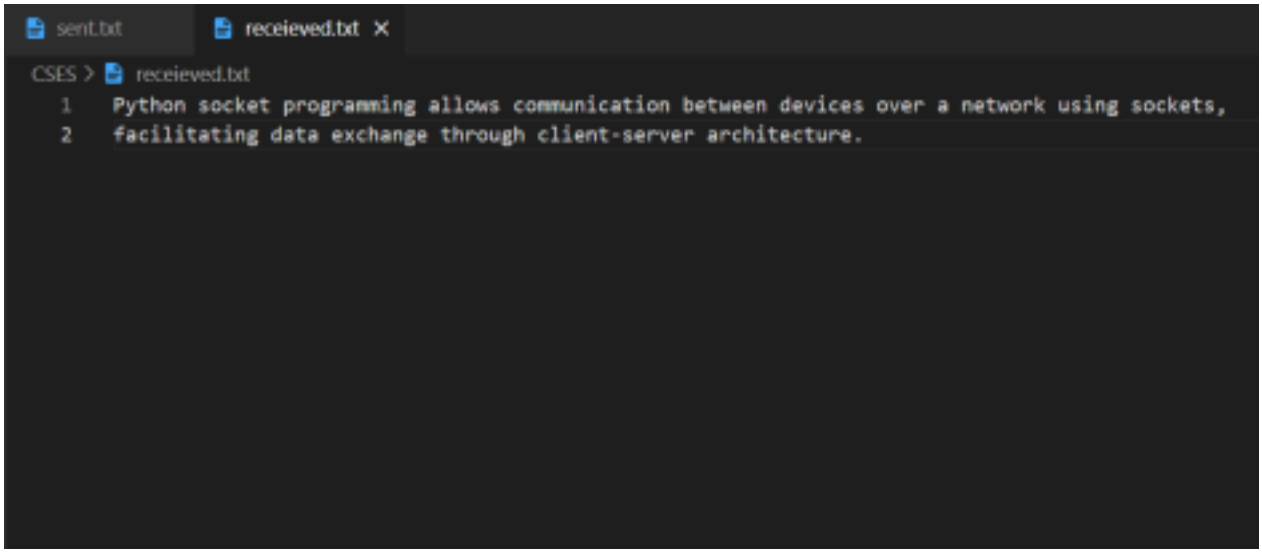
server.py



Sent File Contents:



Received File Contents:



CONCLUSION : From this experiment, we learnt about Socket programming in python, with the help of which we can communicate with different nodes in a network using their IP addresses. In this experiment, we created a client and a server, then connected the client with the server over the network, then we shared a file from the client to the server over the network and the server copies and prints the contents of the file.