Lab-12

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

Server Connection Code:

```
import socket

IP = socket.gethostbyname(socket.gethostname())
PORT = 4455
ADDR = (IP, PORT)
SIZE = 1024
FORMAT = "utf-8"

def main():
    print("[STARTING] Server is starting.")
    """ Staring a TCP socket. """
    server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

    """ Bind the IP and PORT to the server. """
    server.bind(ADDR)

    """ Server is listening, i.e., server is now waiting for the client to
connected. """
    server.listen()
    print("[LISTENING] Server is listening.")

    while True:
        """ Server has accepted the connection from the client. """
        conn, addr = server.accept()
        print(f"[NEW CONNECTION] {addr} connected.")

        """ Receiving the filename from the client. """
        filename = conn.recv(SIZE).decode(FORMAT)
        print(f"[RECV] Receiving the filename.")
        file = open("server_"+filename, "w")
```

```
        conn.send("Filename received.".encode(FORMAT))

        """ Receiving the file data from the client. """
        data = conn.recv(SIZE).decode(FORMAT)
        print(f"[RECV] Receiving the file data.")
        file.write(data)
        conn.send("File data received".encode(FORMAT))

        """ Closing the file. """
        file.close()

        """ Closing the connection from the client. """
        conn.close()
        print(f"[DISCONNECTED] {addr} disconnected.")

if __name__ == "__main__":
    main()
```

Client Connection Code:

```
import socket

IP = socket.gethostbyname(socket.gethostname())
PORT = 4455
ADDR = (IP, PORT)
FORMAT = "utf-8"
SIZE = 1024

def main():
    """ Staring a TCP socket. """
    client = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

    """ Connecting to the server. """
    client.connect(ADDR)

    """ Opening and reading the file data. """
    file = open("C:\\Users\\Ashwani\\OneDrive\\Desktop\\Random Files\\ab.txt",
"r")
    data = file.read()

    """ Sending the filename to the server. """
    client.send("ab.txt".encode(FORMAT))
    msg = client.recv(SIZE).decode(FORMAT)
    print(f"[SERVER]: {msg}")

    """ Sending the file data to the server. """
    client.send(data.encode(FORMAT))
    msg = client.recv(SIZE).decode(FORMAT)
```

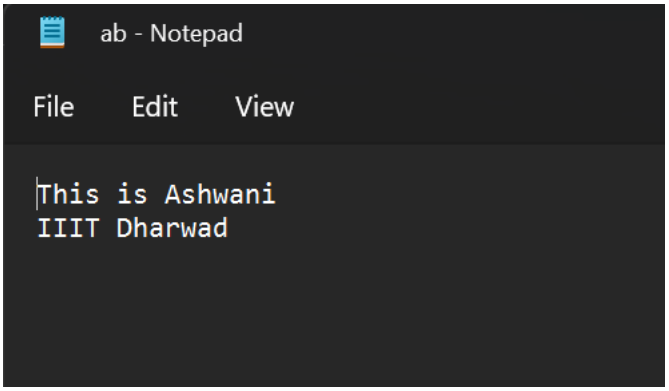
```
    print(f"[SERVER]: {msg}")

    """ Closing the file. """
    file.close()

    """ Closing the connection from the server. """
    client.close()


if __name__ == "__main__":
    main()
```

Text File Sent by Client:



Text File Saved by Server: