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Lab 8: Socket Programming

AIM: To implement Socket Programming and establish a connection between client and server.

THEORY:

Socket programming is a way of connecting two nodes on a network to communicate with each other. One socket(node) listens on a particular port at an IP, while other socket reaches out to the other to form a connection. Server forms the listener socket while client reaches out to the server. They are the real backbones behind web browsing. In simpler terms there is a server and a client.

CODE:

- **server.py**

```
import socket

Socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Socket.bind((socket.gethostname(), 8001))
Socket.listen(5)

while True:
    clientSocket, address = Socket.accept()
    print(f'Connection successfully established with {address}')
    clientSocket.send(bytes('Connected to the server!','utf-8'))
    clientSocket.close()
```

- **client.py**

```
import socket

Socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
Socket.connect((socket.gethostname(), 8001))
msg = Socket.recv(1024)
print(msg.decode('utf-8'))
```

OUTPUT:

- **server.py**

```
TERMINAL  DEBUG CONSOLE  PROBLEMS  OUTPUT  2: Python
PS C:\Users\chait\Desktop\python> & C:/Users/chait/AppData/Local/Programs/Python/Python38/python.exe c:/Users/chait/Desktop/python/server.py
Connection successfullt established with ('192.168.43.74', 8793)
Connection successfullt established with ('192.168.43.74', 8794)
Connection successfullt established with ('192.168.43.74', 8835)
Connection successfullt established with ('192.168.43.74', 8836)
```

- **client.py**

```
TERMINAL  DEBUG CONSOLE  PROBLEMS  OUTPUT
PS C:\Users\chait\Desktop\python> python client.py
Connected to the server!
PS C:\Users\chait\Desktop\python> python client.py
Connected to the server!
PS C:\Users\chait\Desktop\python> python client.py
Connected to the server!
PS C:\Users\chait\Desktop\python>
```

CONCLUSION:

I understood how to successfully establish a connection between client and server using socket programming.

REFEERENCES:

1. [geeksforgeeks.org/socket-programming-python/](https://www.geeksforgeeks.org/socket-programming-python/)