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## TCP CLIENT SERVER USING SOCKET PROGRAMMING IN PYTHON

Aim:

To implement TCP client- server communication using socket programming in python.

Algorithm:

Server

- 1.Create a socket using `socket.socket()`.
- 2.Bind the socket to an IP and port using `bind()`.
- 3.Listen for client connection using `accept()`.
- 4.Accept client connection using `accept()`.
- 5.Receive data using `recv()`.
- 6.Send response using `send()`.
- 7.Close connection.

Client

- 1.Create a socket using `socket.socket()`.
- 2.Connect to server using `connect()`.
- 3.Send data using `send()`.
- 4.Receive response using `recv()`.
- 5.Close connection.

PROGRAM:

SERVER:

```
import socket
sockfd=socket.socket(socket.AF_INET,
socket.SOCK_STREAM) print('Socket Created')
sockfd.bind(('localhost',55555))
```

```

sockfd.listen(3)
print('Waiting for connections')
while True:
    clientfd,addr=sockfd.accept()
    receivedMsg=clientfd.recv(1024).decode()
    print("Connected with ",addr)
    print("Message Received from Client:
",receivedMsg)
    clientfd.send(bytes(receivedMsg,'utf-8'))
    print("Message reply sent to Client!")
    print("Do you want to continue(type y or n):")
    choice=input()
    if choice=='n':

```

#### **CLIENT:**

```

import socket
clientfd=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
clientfd.connect(('localhost',55555))
name=input("Enter your message:")
clientfd.send(bytes(name,'utf-8'))
print("Message Received from Server:
",clientfd.recv(1024).decode())

```

## OUTPUT:

```
Windows PowerShell
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PS C:\Users\user> cd C:\Users\user\Documents
PS C:\Users\user\Documents> python client.py
Enter message to send to server: hello
Server says: Server received your message
PS C:\Users\user\Documents> |
```

```
Windows PowerShell
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PS C:\Users\user> cd C:\Users\user\Documents
PS C:\Users\user\Documents> python server.py
Server is listening...
Connected by ('127.0.0.1', 54384)
Client says: hello
PS C:\Users\user\Documents>
```

Result:

Thus TCP server-client communication was successfully implemented using python.