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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 using socket.socket().

2.bind the socket to an IP and port using bind().

3.listen for client connections using listen().

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.

CODE:

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':
        break
```

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:

```
Microsoft Windows [Version 10.0.22631.5335]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>cd..

C:\Users>cd..

C:\>D:

D:\>python client.py
Enter your message:hello server
Message Received from Server:  hello server
```

```
C:\Users\admin>cd..

C:\Users>cd..

C:\>D:

D:\>python server.py
Socket Created
Waiting for connections
Connected with  ('127.0.0.1', 60210)
Message Received from Client:  hello server
Message reply sent to Client!
Do you want to continue(type y or n):
y
```

RESULT:

Thus,TCP client-server communication was successfully implemented using socket programming in python