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UDP CLIENT- SERVER COMMUNICATION USING SOCKET PROGRAMMING IN PYTHON

AIM:

 Server:

1. Start the program.

    2.Import the socket module.

    3.Create a UDP socket using socket.AF_INET
    and socket.SOCK_DGRAM.

    4.Bind the socket to an IP address and port.

    5.Receive a message from the client.

    6.Send a reply back to the client.

    7.Close the socket.

Client:

     1. Start the
program.

    2.Import the socket module.

    3. Create a UDP socket using socket.AF_INET
and socket.SOCK_DGRAM.

    4.Send a message to the server using the server's IP and
    port. 5.Receive the server's reply.

    6.Display the reply message.

    7.Close the socket.

CODE:

SERVER:

```python
import socket
sockfd = socket.socket(socket.AF_INET,
socket.SOCK_DGRAM) print("UDP Socket Created")
sockfd.bind(('localhost', 55555))
print("Waiting for messages on localhost:55555")
while True:
    data, addr = sockfd.recvfrom(1024)
    message = data.decode('utf-8')
    print(f"Received from {addr}: {message}")
    sockfd.sendto(data, addr)
    print(f"Echoed back to {addr}")
 choice = input("Continue receiving? (y/n): ")
 if choice.lower() == 'n':
        break
    sockfd.close()
    print("Server shutdown")
```

CLIENT:

```python
import socket
clientfd = socket.socket(socket.AF_INET,
socket.SOCK_DGRAM) server_addr = ('localhost', 55555)
msg = input("Enter your message: ")
clientfd.sendto(msg.encode('utf-8'), server_addr)
data, _ = clientfd.recvfrom(1024)
```

print("Echo from server:", data.decode('utf-8')) clientfd.close()

OUTPUT
:
Server:

```
Windows PowerShell
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PS C:\Users\user> cd C:\Users\user\OneDrive\Documents
PS C:\Users\user\OneDrive\Documents> python server.py
Server is listening...
Connected by ('127.0.0.1', 65189)
Client says: Hello UDP Server
PS C:\Users\user\OneDrive\Documents>
```

Client:

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

Result:
        Thus, UDP server-client communication was successfully implemented using python.