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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:

```
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:

```
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.