Exp: 13

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Ping Program

Aim:-

To implement your own ping program

Alogirithm:-

UDP Server:-

-> Create UDP Socket & bind it to a specific address & port

-> wait for message

-> print message & client address

-> Send back ping to client

UDP Client:-

-> Create UDP Socket & Set a 2 sec timeout

-> Send 'ping' to Server

-> If a response ("Ping is received), print response & calculate RTT

-> If no response within 2 sec print request time out.

Code:

Server.py

```
import socket
 def start_server (host = '127.0.0.1", port = 12345):
  with socket.socket (Socket. AF_INET, socket.sock_DGRAM) as s:
     s. bind ((host , port ))
     print ( f"UDP server on {host}:{port}")
   while True:
     data , addr = s.recved (1024)
     print (f :" Received message from {addr}:{data.decode()}")
     s.sendto (b'Pong', addr)
if __name__ == "__main__"
    start_server()
```

client.py

```
import time
import socket
def ping_server (host = '127.0.0.1', port = 1234)
  with socket_socket (socket_AF_INET, socket_sock_DGRAM) as s:
    try:
     s. settime(2)
     start = time.time()
```

```
s.sendto(b'ping', (host, port))
data, addr = s.recvfrom(1024)
end = time.time()
 print(f"Received {data.decode()} from {addr} in
                                {end-start:.2f} seconds")

except socket.timeout:
      print("Request timed out")

if __name__ == "__main__":
      ping_server()
```

Output:

Terminal

Server.py

```
UDP Server Running
  on 127.0.0.1:12345



Received message from
('127.0.0.1', 50061: ping)
```

Client.py

```
Received ping from
  ('127.0.0.1', 12345)
in 0.00 seconds
```

Result:

Thus, a ping program has been executed successfully.