Exp: 13
Date: 25/10/24

Implementation of Own Ping Program

Aim:

To implement your own ping program

Algorithm

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 respond 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))
```

```
while True:
    data, addr = s.recvfrom(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)
        except socket.timeout:
            print("Request timed out")
if __name__ == "__main__":
    ping_server()
```

O/P

Terminal	Terminal
~ python server.py UDP server running on 127.0.0.1:12345	
Received message from ('127.0.0.1', 500061 : ping)	~ python : client.py Received pong from ('127.0.0.1', 12345) in 0.00 sec

Results

Thus, the program (ping) is implemented successfully and output is verified.