EXP: 8
DATE: 18/10/2024

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 pong to client

UDP client
→ create UDP socket & set a 2 sec timeout
→ send 'ping' to server
→ if a response 'pong' is received print response & calculate RTT
→ if no response within 2 sec print request timeout

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 running on {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=12345):
    with socket.socket(socket.AF_INET,
                       socket.SOCK_DGRAM) as s:
        try:
            s.settimeout(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

>python server.py

UDP server running on 127.0.0.1 12345
Received message from ('127.0.0.1', 50061): ping

> python client.py
Received pong from ('127.0.0.1', 12345) in 0.00 seconds

RESULT

Thus a ping program has been executed successfully.