Ex NO:13 PING PROGRAM

DATE: 27.09.25

Aim:

To implement our own ping program

a) Server

```
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 Ping server running on {host}:{port}")
        while True:
            data, addr = s.recvfrom(1024)
            print(f"Received from {addr}: {data.decode()}")
            s.sendto(b'Pong', addr)
start_server()
```

b) Client

```
import socket
import time
def start_client(host='127.0.0.1', port=12345, count=5):
    with socket.socket(socket.AF_INET, socket.SOCK_DGRAM) as s:
        s.settimeout(2)
        for i in range(count):
            start = time.time()
            s.sendto(b'Ping', (host, port))
            try:
                data, addr = s.recvfrom(1024)
                end = time.time()
                rtt = (end - start) * 1000
                print(f"Reply from {addr}: {data.decode()} | RTT = {rtt:.2f} ms")
            except socket.timeout:
                print("Request timed out.")
```

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```
        time.sleep(1)

start_client()
```

Output:

Server:

```
UDP Ping Server running on 127.0.0.1:12345
Received from ('127.0.0.1', 52735) : Ping
Received from ('127.0.0.1', 52735) : Ping
Received from ('127.0.0.1', 52735): Ping
```

client:

```
Reply from ('127.0.0.1', 12345): Pong | RTT = 0.56 ms
Reply from ('127.0.0.1', 12345): Pong | RTT = 0.58 ms
Reply from ('127.0.0.1', 12345): Pong | RTT = 1.82 ms
```

Result:

The program has been executed successfully.

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