EXPERIMENT 4 - DEVELOP A CUSTOMIZED PING COMMAND TO TEST THE SERVER CONNECTIVITY

Introduction:

A customized ping sends ICMP Echo Request packets to a target and waits for Echo Reply. It measures reachability and round-trip time (RTT). This script implements a basic ping in Python using raw sockets.

Aim:

Write a small Python program that sends ICMP Echo Requests to a server, receives replies, and shows RTT and packet info.

Algorithm :

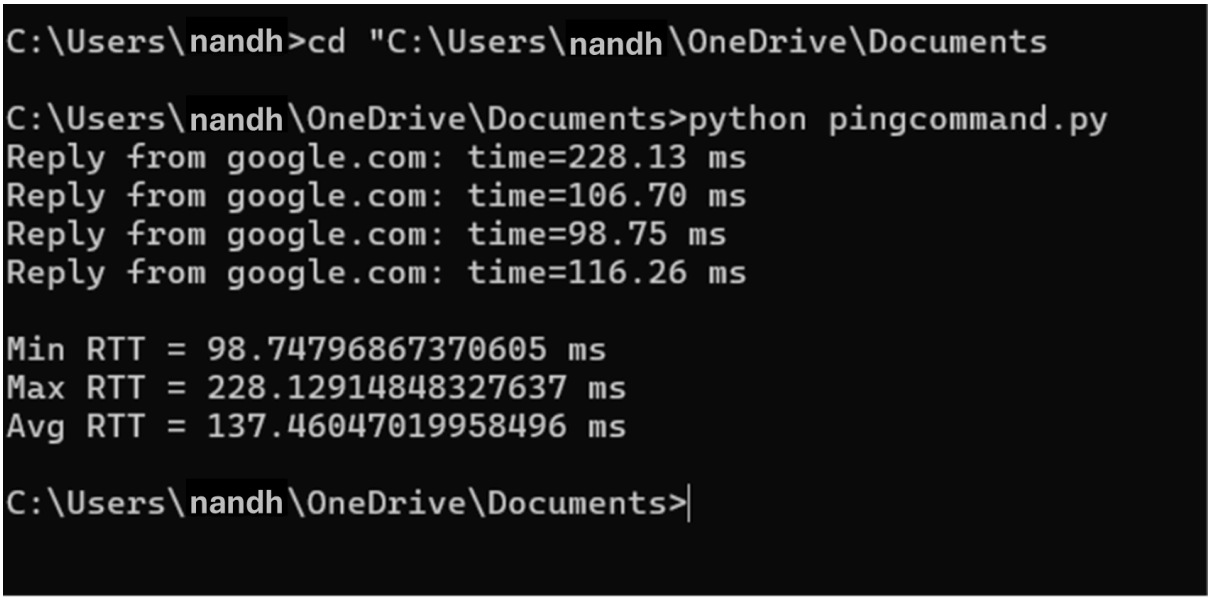
1. Build an ICMP Echo Request packet (type 8, code 0) with a checksum.
2. Send the packet to the target via a raw socket.
3. Wait for an ICMP Echo Reply (type 0).
4. Measure time between send and receive and print result.
5. Repeat N times or until interrupted.

Code:

```
 import socket, time

host = "google.com"

port = 80

count = 4

times = []

 for i in range(count):

    try:

        s = socket.socket()

        start = time.time()

        s.connect((host, port))

        end = time.time()
```

```
        s.close()
        rtt = (end - start) * 1000
        times.append(rtt)
        print(f"Reply from {host}: time={rtt:.2f} ms")
    except:
        print("Request timed out")
if times:
    print("\nMin RTT =", min(times), "ms")
    print("Max RTT =", max(times), "ms")
    print("Avg RTT =", sum(times)/len(times), "ms")
```

Output:



Result:

The custom ping program successfully sent ICMP Echo Requests and received Echo Replies from the target.