Computer Networks Lite

Lab #6

SE20UARI002

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Idea:

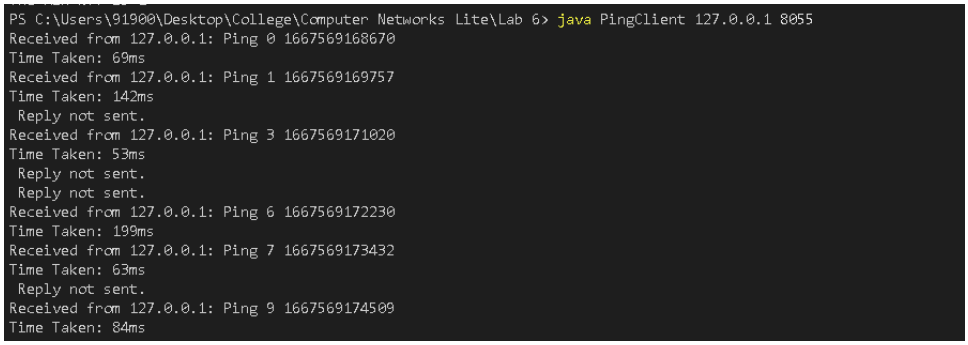
1)

For the modifing the PingServer.java to PingClient.java I changed the while loop to a for loop that runs for a total of 10 times

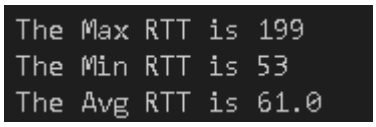
```
for(int i=0;i<10;i++)
{
    // Create a datagram packet to hold outgoing UDP packet.
    //Each message contains
    // a payload of data that includes the keyword PING,
    // a sequence number, and a timestamp.
    Random random = new Random();
    long SendTime = System.currentTimeMillis();
    String Message = "Ping "+ i + " " + SendTime + "\n";
    DatagramPacket request =new DatagramPacket(Message.getBytes(),
    socket.send(request);
    DatagramPacket reply =new DatagramPacket(new byte[1024], lengt
    socket.setSoTimeout(timeout: 1000);
    try
    {
        socket.receive(reply);

    }
    catch(IOException E)
    {
        System.out.println(x: " Reply not sent.");
    }
    long RecieveTime = System.currentTimeMillis();
    long Time_Taken=RecieveTime-SendTime;
    if(random.nextDouble() < 0.3)
    {
        packetNotRecivied[i] = 1;
    }
    timeTakenArray[i] = Time_Taken;
    printData(reply,Time_Taken, packetNotRecivied[i]);

    // Thread.sleep(1000);
}
```

Which then creates a new Datagram packet and sends it to the server and if it receives Null pointer back then it prints a Reply not sent message into the terminal

But if it receives a packet it sends prints out the data of the packet with the sequence number, host IP address the message that it received in bit format with the amount of time it took to send and receive the message.



After printing out the following data it prints out the Max RTT, the Min RTT and the Avg RTT from all the packets.



The Logic for calculating each value is a very simple linear search of an array where each value is stored, and finding the max, min and sum of the values then calculating the Avg RTT.

The Code also sends a ping only every 1 second and if it does’nt receive any ping back it sends the message “Replay not sent.”