

Sharad Shivmath
N13619376

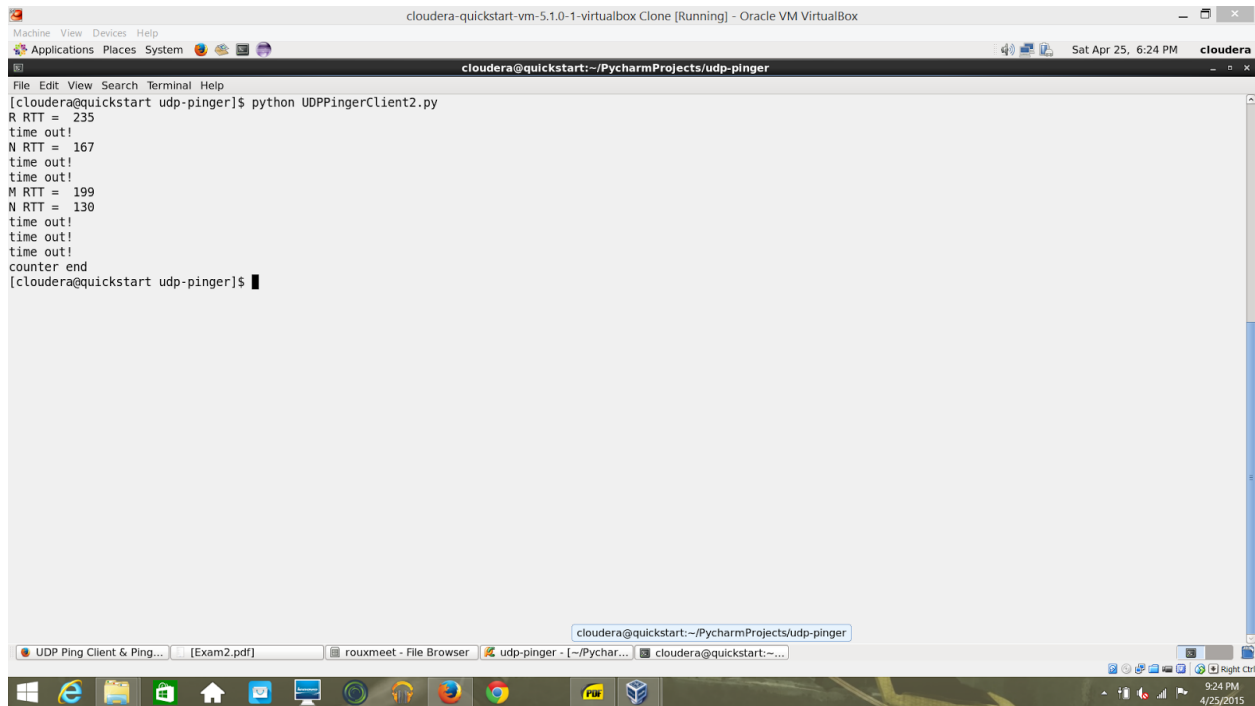
UDP Pinger client code:

```
__author__ = 'sharad'
from datetime import datetime
from socket import *
from time import time

clientSocket = socket(AF_INET, SOCK_DGRAM)
message = 'randomnumb'
counter = 0
while counter < 10:
    # send one letter at a time
    clientSocket.sendto(message[counter], ('localhost', 12000))
    t1 = datetime.now()
    # wait for one second
    clientSocket.settimeout(1)
    try:
        modified_message, server_address = clientSocket.recvfrom(1024)
        t2 = datetime.now()
        print modified_message+' RTT = ', (t2-t1).microseconds
    except timeout:
        print 'time out!'
    counter = counter + 1

print 'counter end'
clientSocket.close()
```

Output screenshot:



```
cloudera-quickstart-vm-5.1.0-1-virtualbox Clone [Running] - Oracle VM VirtualBox
cloudera@quickstart:~/PycharmProjects/udp-pinger
[cloudera@quickstart udp-pinger]$ python UDPPingerClient2.py
R RTT = 235
time out!
N RTT = 167
time out!
time out!
M RTT = 199
N RTT = 130
time out!
time out!
time out!
counter end
[cloudera@quickstart udp-pinger]$
```

Optional exercise code:

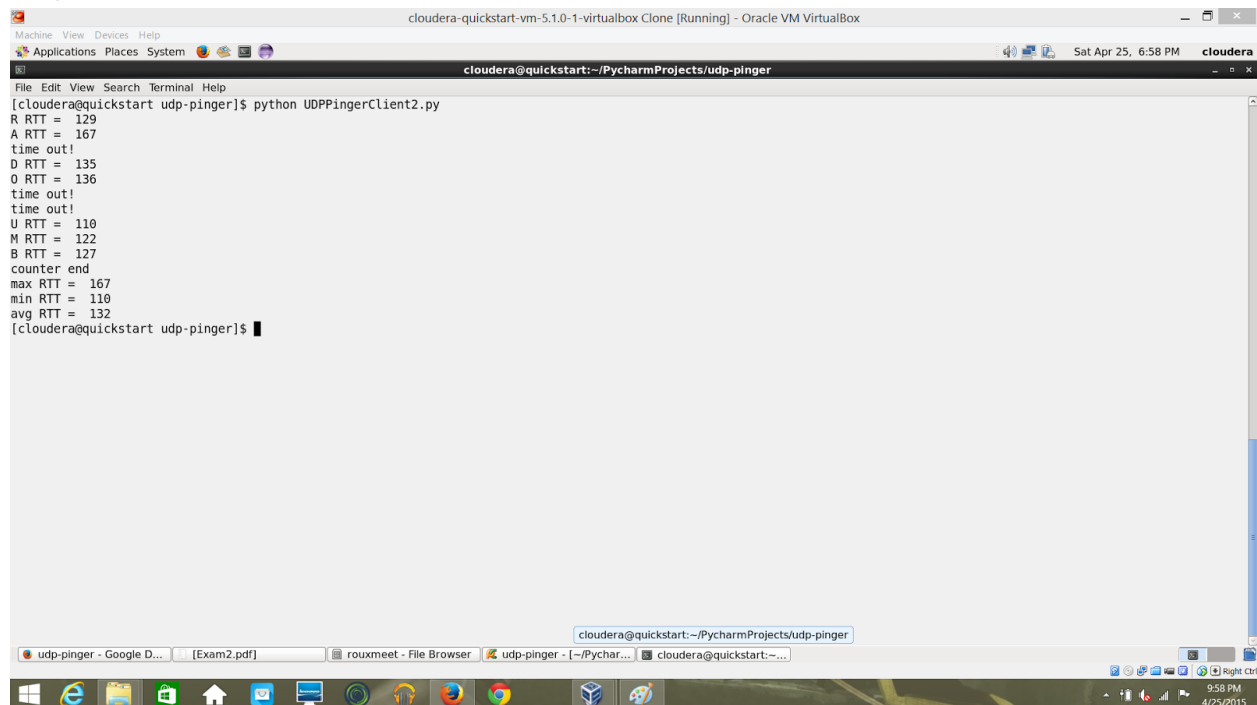
```
__author__ = 'sharad'
from datetime import datetime
from socket import *
from time import time

clientSocket = socket(AF_INET, SOCK_DGRAM)
message = 'randomnumb'
counter = 0
rtt_list = []
while counter < 10:
    # send one letter at a time
    clientSocket.sendto(message[counter], ('localhost', 12000))
    t1 = datetime.now()
    # wait for one second
    clientSocket.settimeout(1)
    try:
        modified_message, server_address = clientSocket.recvfrom(1024)
        t2 = datetime.now()
        rtt = (t2-t1).microseconds
        print modified_message+' RTT = ', rtt
        rtt_list.append(rtt)
    except timeout:
```

```
        print 'time out!'
        counter = counter + 1

print 'counter end'
print 'max RTT = ', max(rtt_list)
print 'min RTT = ', min(rtt_list)
print 'avg RTT = ', sum(rtt_list)/len(rtt_list)
clientSocket.close()
```

Output:



```
cloudera-quickstart-vm-5.1.0-1-virtualbox Clone [Running] - Oracle VM VirtualBox
Machine View Devices Help
Applications Places System
cloudera@quickstart:~/PycharmProjects/udp-pinger
File Edit View Search Terminal Help
[cloudera@quickstart udp-pinger]$ python UDPPingerClient2.py
R RTT = 129
A RTT = 167
time out!
D RTT = 135
O RTT = 136
time out!
time out!
U RTT = 110
M RTT = 122
B RTT = 127
counter end
max RTT = 167
min RTT = 110
avg RTT = 132
[cloudera@quickstart udp-pinger]$
```