CN Project Industry Based Problem

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Section: F Roll No: 23

Code:

```
import pyshark
import time
# define interface
networkInterface = "Local Area Connection* 2"
ip = []
n = int(input("Enter number of clients in network: "))
for i in range(n):
    ip addr = input(f"IP of client {i + 1}: ")
   ip.append(ip addr)
capture = pyshark.LiveCapture(interface=networkInterface)
packets1 = []
packets2 = []
print("listening on %s" % networkInterface)
for packet in capture.sniff_continuously(packet_count=1000):
    try:
       localtime = time.asctime(time.localtime(time.time()))
       print(".", end="")
        if packet.ip.src == ip[0] or packet.ip.dst == ip[0]:
```

```
packets1.append([localtime, packet])
       if(packet.ip.src == ip[1]):
           packets2.append([localtime, packet])
   except AttributeError as e:
with open("client1.txt", "w") as f:
   for packs in packets1:
       protocol = packs[1].transport layer # protocol type
       src addr = packs[1].ip.src # source address
       src port = packs[1][protocol].srcport # source port
       dst addr = packs[1].ip.dst # destination address
       dst port = packs[1][protocol].dstport # destination port
       f.write(
           % (packs[0], src addr, src port, dst addr, dst port, protocol)
with open("client2.txt", "w") as f:
   for packs in packets2:
       protocol = packs[1].transport layer # protocol type
       src addr = packs[1].ip.src # source address
       src port = packs[1][protocol].srcport # source port
       dst addr = packs[1].ip.dst # destination address
       dst port = packs[1][protocol].dstport # destination port
       f.write(
           "%s Source IP: %s:%s <-> Dest IP%s:%s (%s)\n"
           % (packs[0], src addr, src port, dst addr, dst port, protocol)
```

```
Output:
                        web monitoring 2.pv
                                                ≡ client1.txt ×
         Thu Apr 21 15:07:14 2022 Source IP: 74.125.130.188:443 <-> Dest IP192.168.137.194:15944 (TCP)
         Thu Apr 21 15:07:16 2022 Source IP: 52.114.36.90:443 <-> Dest IP192.168.137.194:16089 (TCP)
         Thu Apr 21 15:07:17 2022 Source IP: 52.114.36.90:443 <-> Dest IP192.168.137.194:16089 (TCP)
         Thu Apr 21 15:07:17 2022 Source IP: 52.114.36.90:443 <-> Dest IP192.168.137.194:16089 (TCP)
         Thu Apr 21 15:07:18 2022 Source IP: 192.168.137.194:16163 <-> Dest IP52.114.44.75:443 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 52.114.44.75:443 <-> Dest IP192.168.137.194:16163 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16163 <-> Dest IP52.114.44.75:443 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16176 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16176 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:53361 <-> Dest IP192.168.137.1:53 (UDP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:56072 <-> Dest IP192.168.137.1:53 (UDP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16176 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
        Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
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         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.1:53 <-> Dest IP192.168.137.194:53361 (UDP)
         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.1:53 <-> Dest IP192.168.137.194:56072 (UDP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
         Thu Apr 21 15:07:19 2022 Source IP: 142.250.193.100:443 <-> Dest IP192.168.137.194:16176 (TCP)
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         Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16176 <-> Dest IP142.250.193.100:443 (TCP)
        Thu Apr 21 15:07:19 2022 Source IP: 192.168.137.194:16176 <-> Dest IP142.250.193.100:443 (TCP)
  web_monitoring.py
                                                ≡ client2.txt ×
        Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:64520 <-> Dest IP192.168.137.1:53 (UDP)
        Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27108 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27103 <-> Dest IP172.217.194.188:5228 (TCP)
        Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:14 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
        Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP)
        Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27108 <-> Dest IP142.250.193.100:443 (TCP)
        Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:50390 <-> Dest IP239.255.255.250:1900 (UDP)
        Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27108 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27108 <-> Dest IP142.250.193.100:443 (TCP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:64520 <-> Dest IP192.168.137.1:53 (UDP)
         Thu Apr 21 15:07:15 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP)
```

Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:64520 <-> Dest IP192.168.137.1:53 (UDP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27108 <-> Dest IP142.250.193.100:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27109 <-> Dest IP142.250.193.100:443 (TCP) Thu Apr 21 15:07:16 2022 Source IP: 192.168.137.226:27100 <-> Dest IP20.195.65.202:443 (TCP)