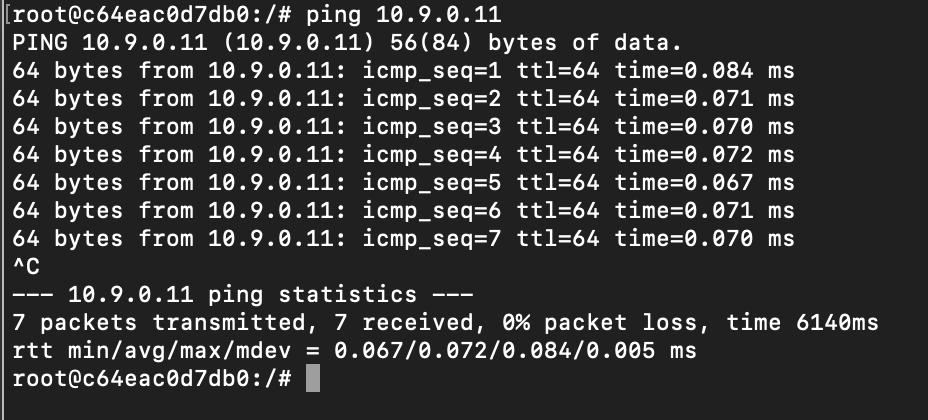
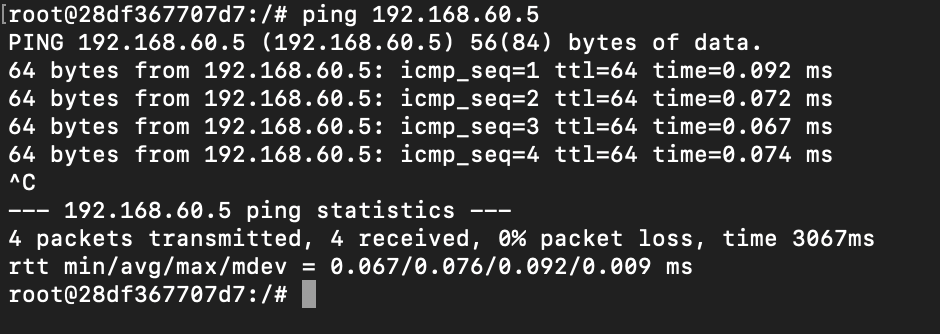
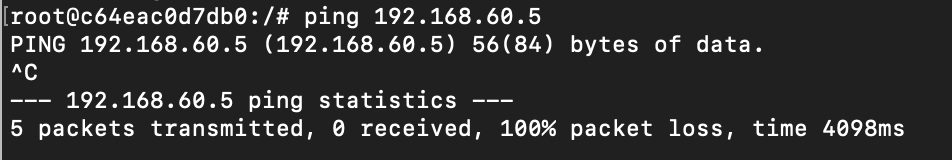
**Task 1**

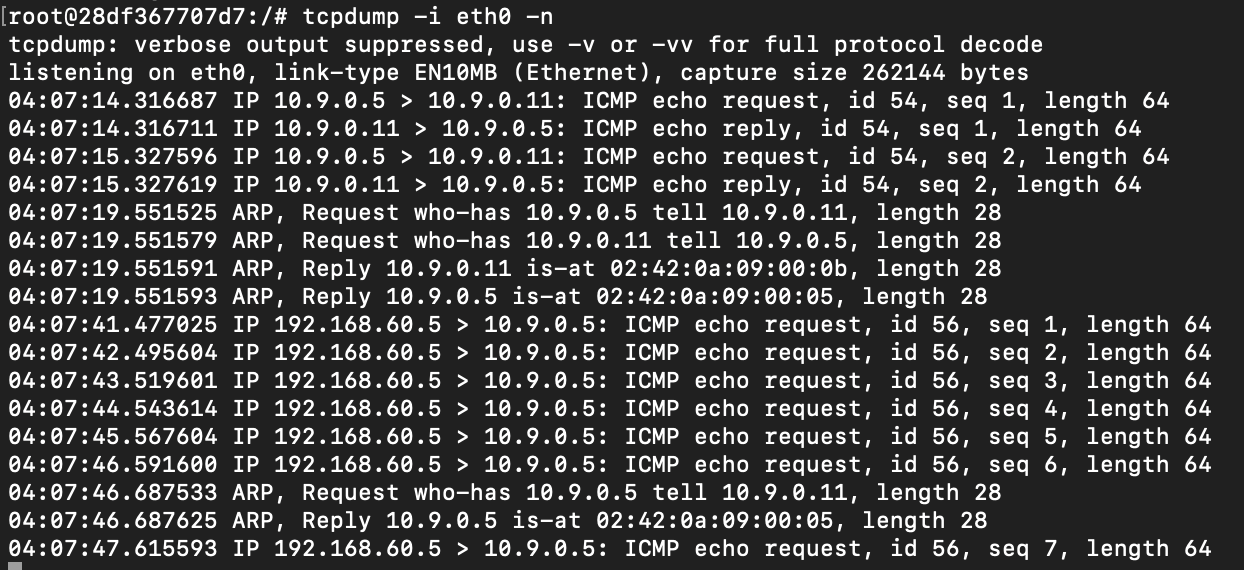
**Host U can communicate with VPN Server.**

**VPN Server can communicate with Host V**

**Host U should not be able to communicate with Host V**

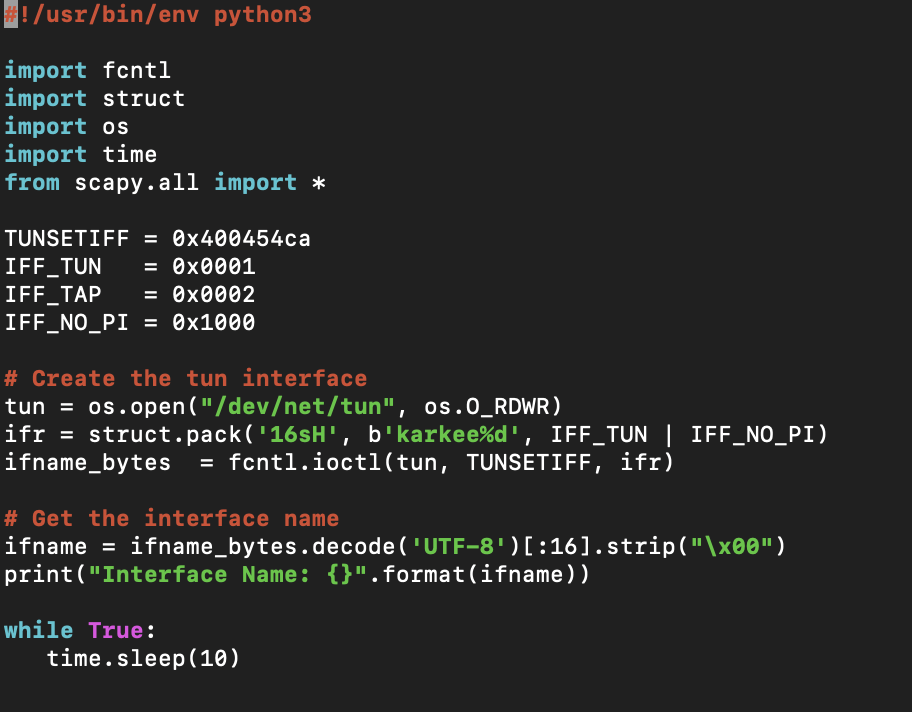
****

**Run tcpdump on the router, and sniff the traffic on each of the network. Show that you can capture packets**

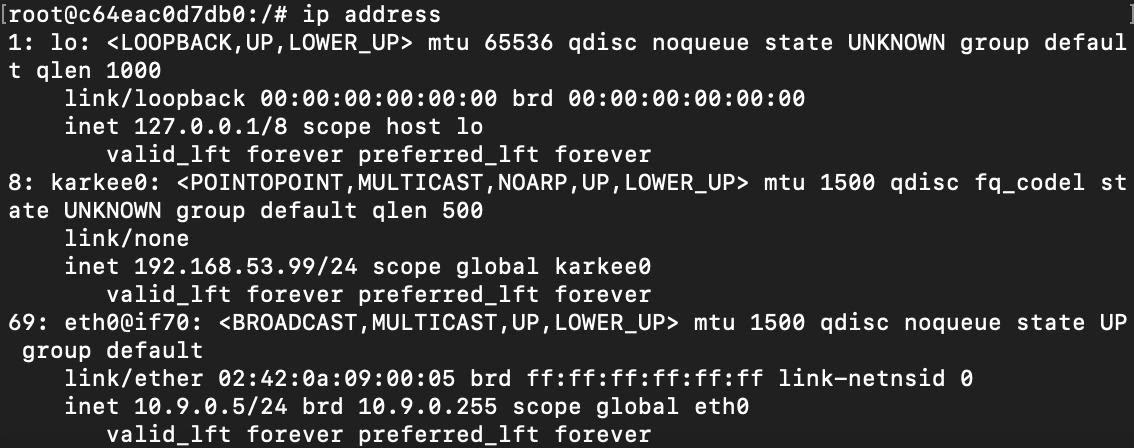
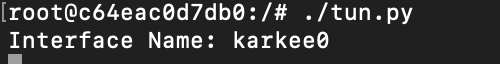
****

**Task 2.a**

**Code:**

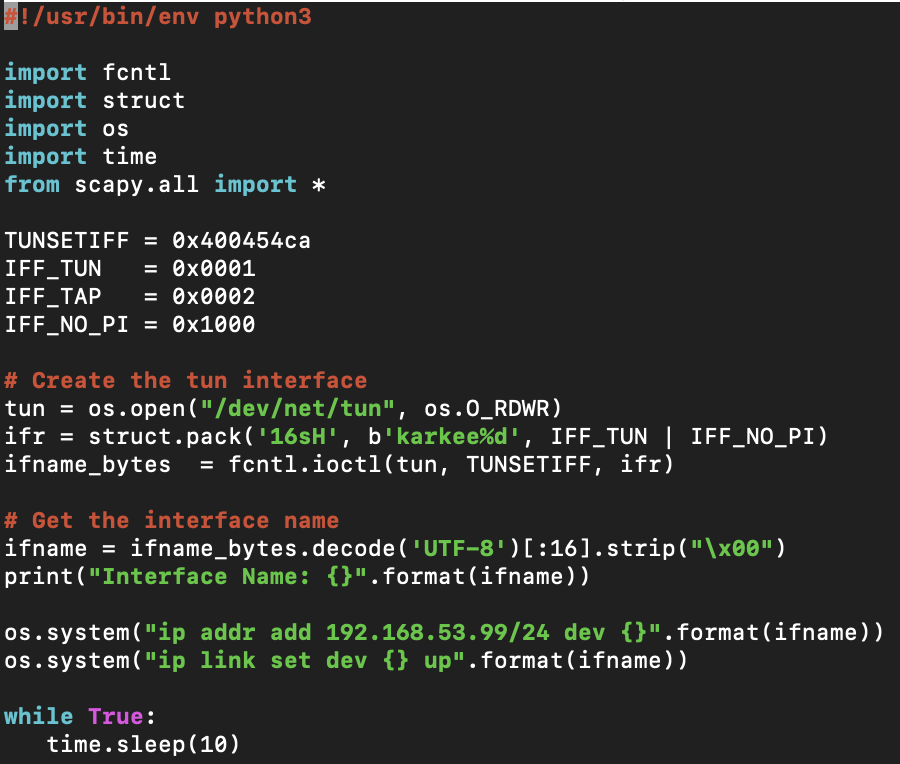
****

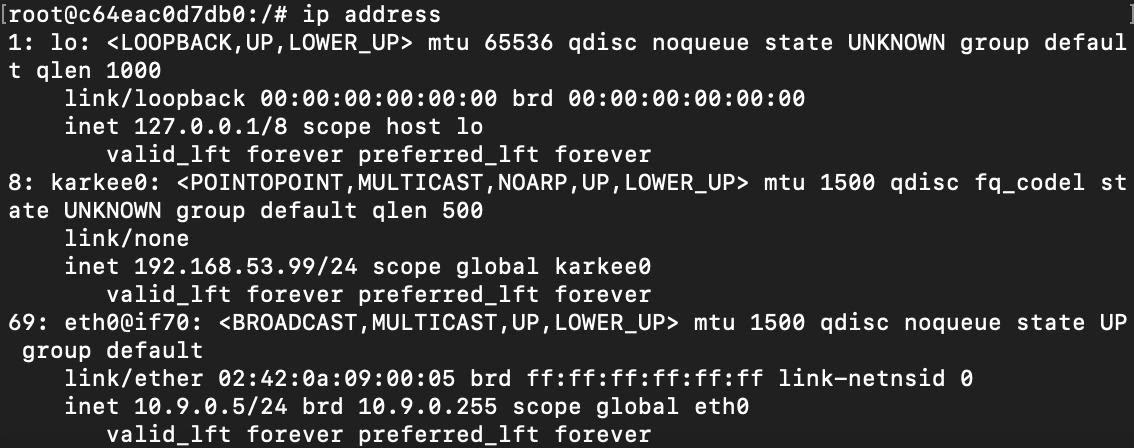
**Result**

****

**Task 2.b**

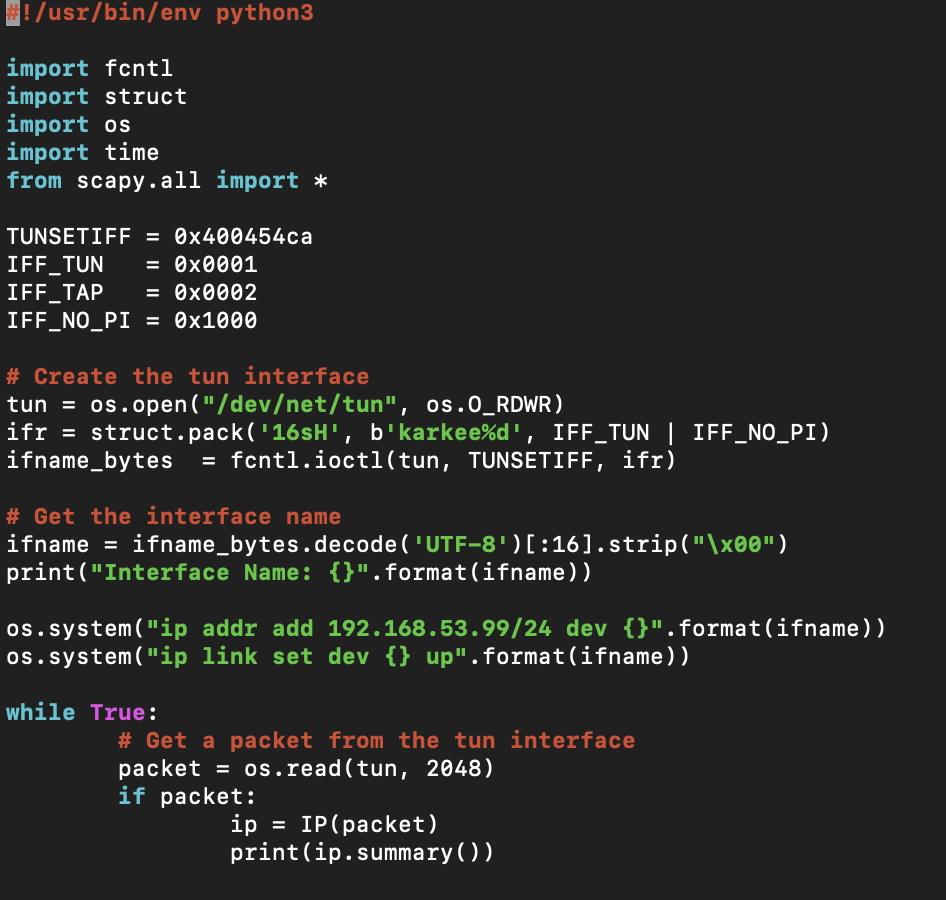
**Code:**

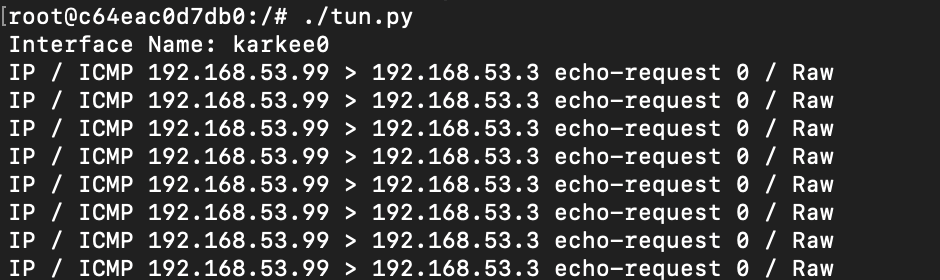
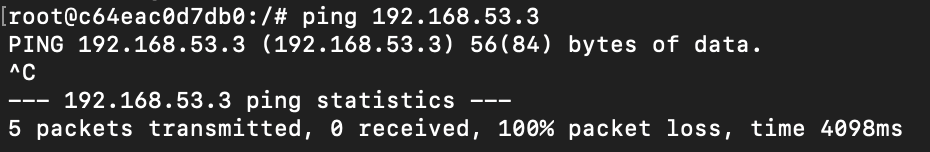
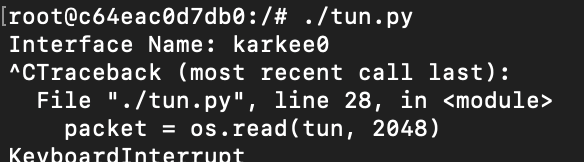
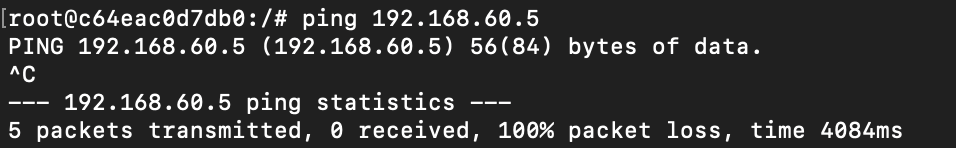
****

**Result:**

**Task 2.c**

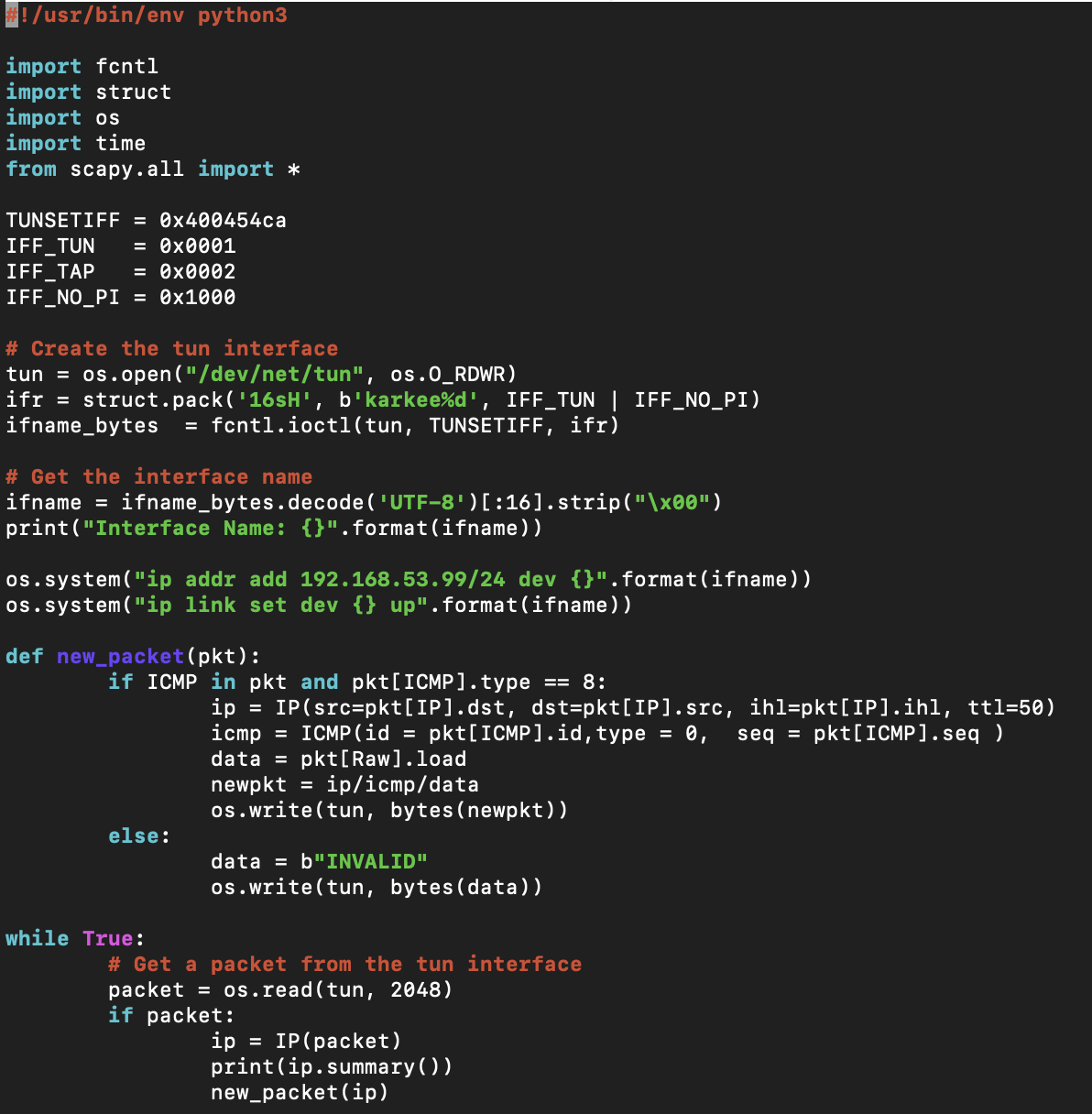
**Code:**

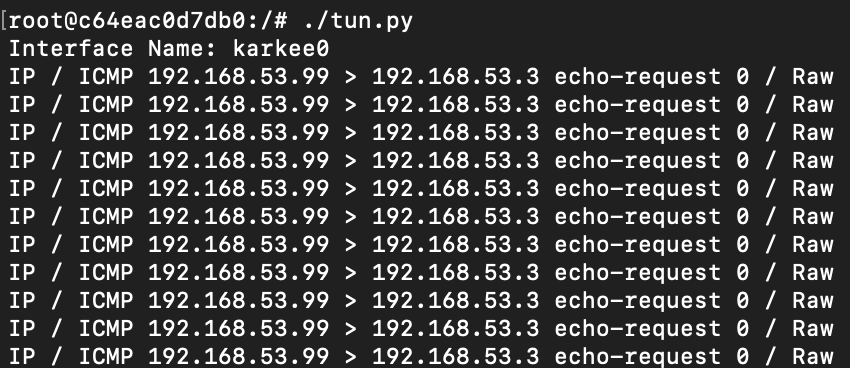
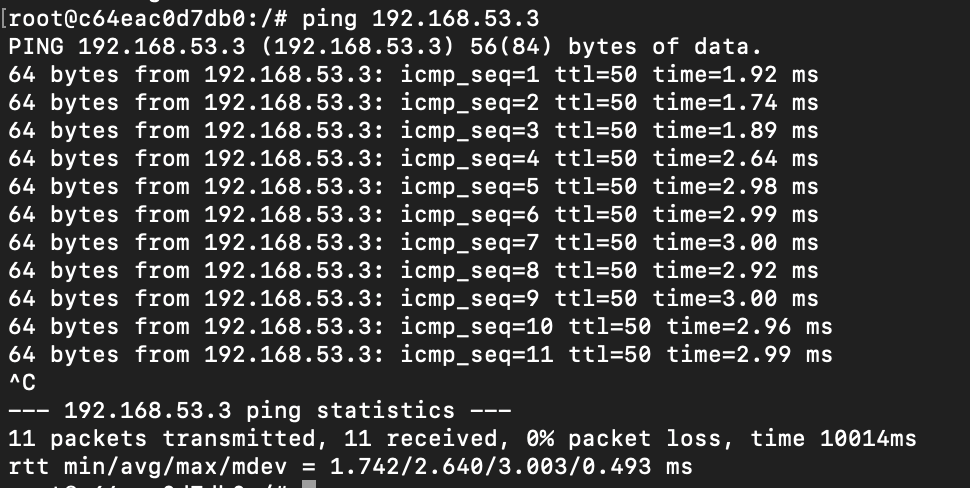
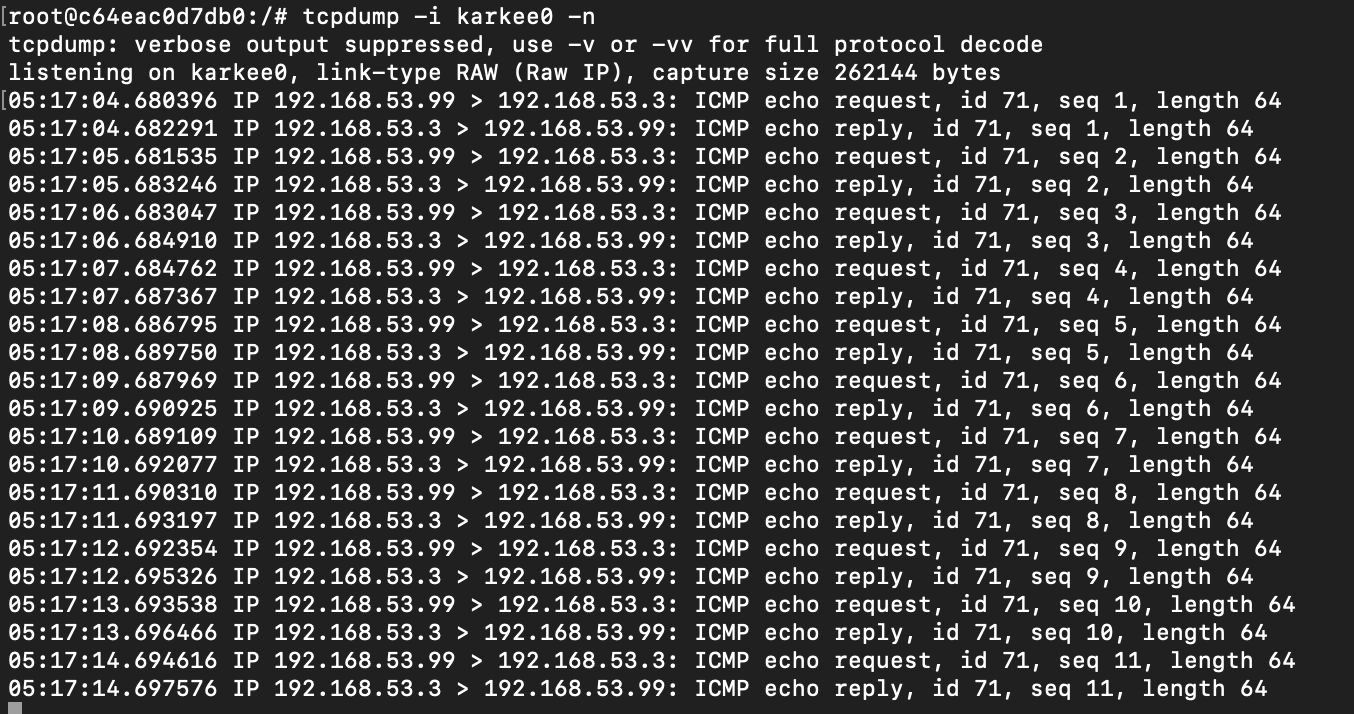
****

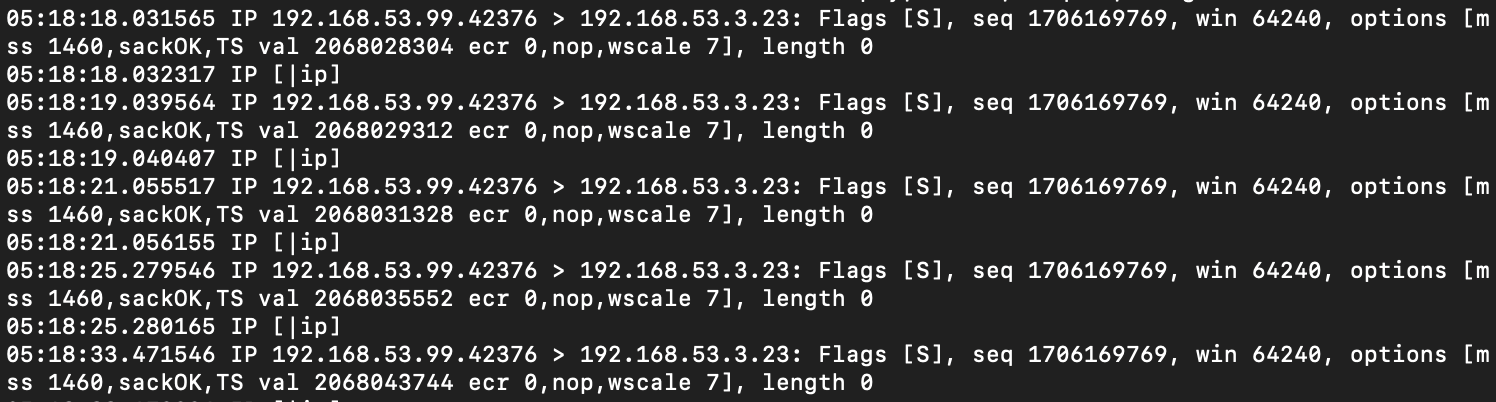
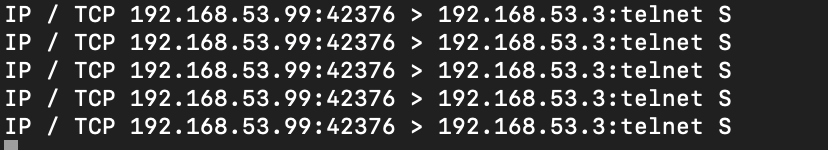
When I ping 192.168.53.3 I get the result in tun.py****But not for 192.168.60.5 as there is no connection****

**Task 2.d**

**Code:**

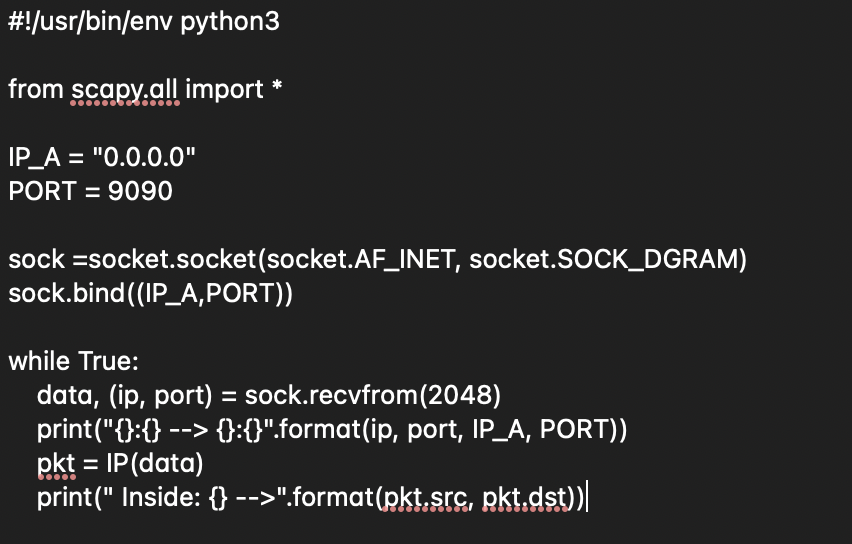
****

As you can see we created reply icmp packet for the ping request in above code and we are getting reply back with ttl of 50.****We can see TCPdump reply request sequence****

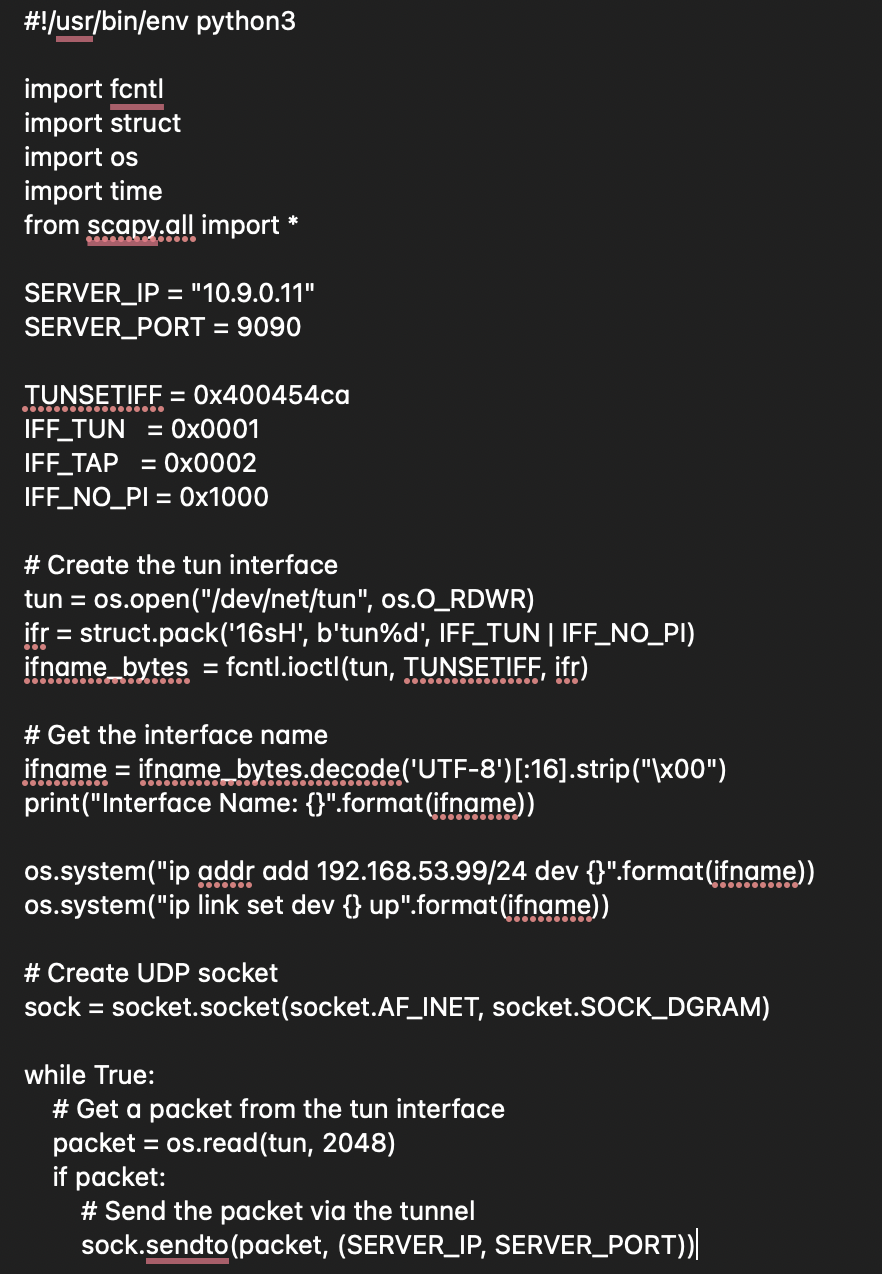
As any packet except ICMP is not properly replied back we see the result as below****

**Task 3**

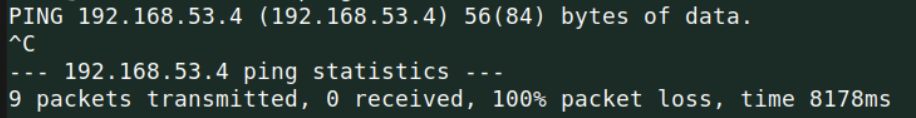
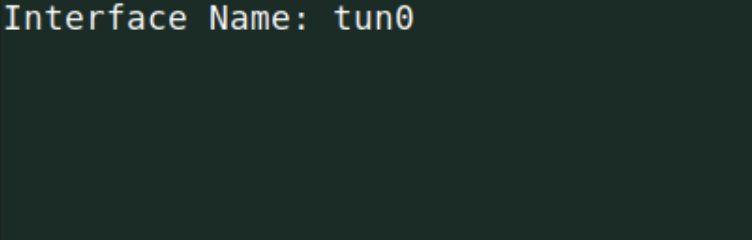
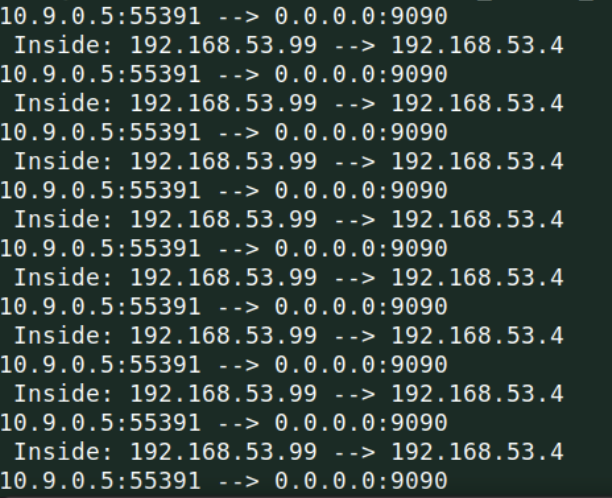
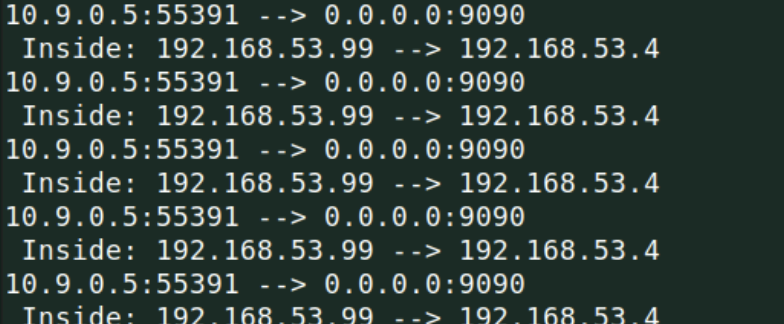
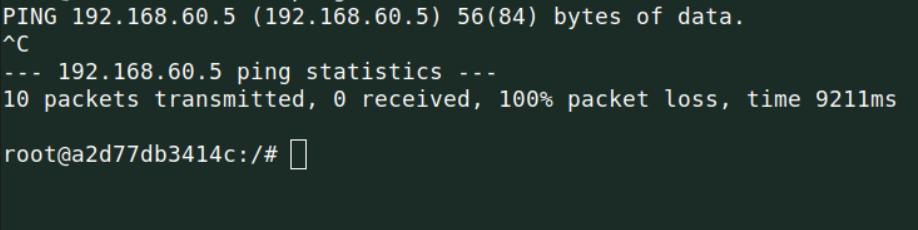
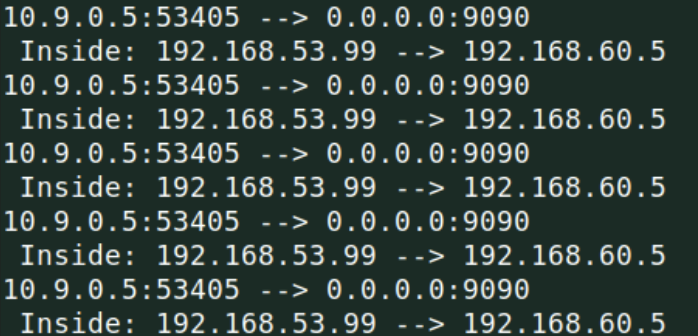
**Server:**

****

**Client:**

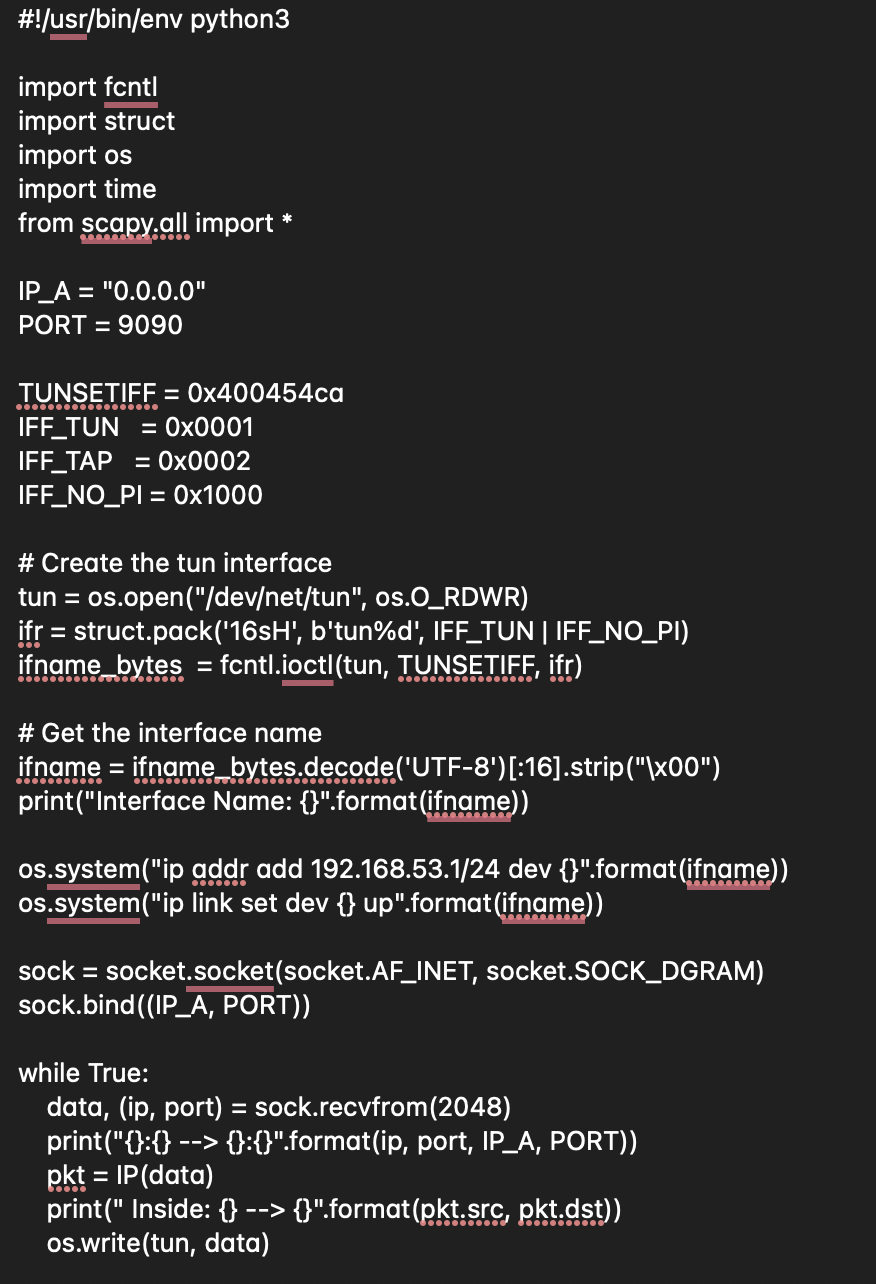
****

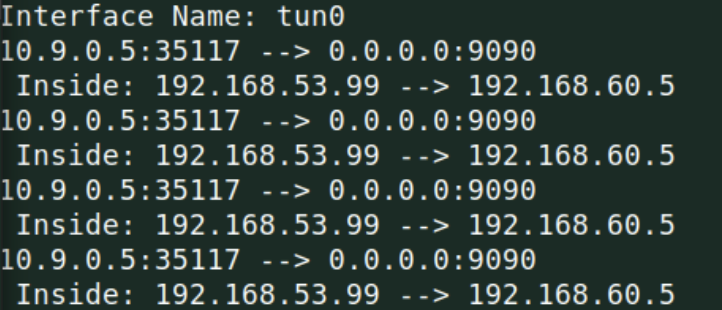
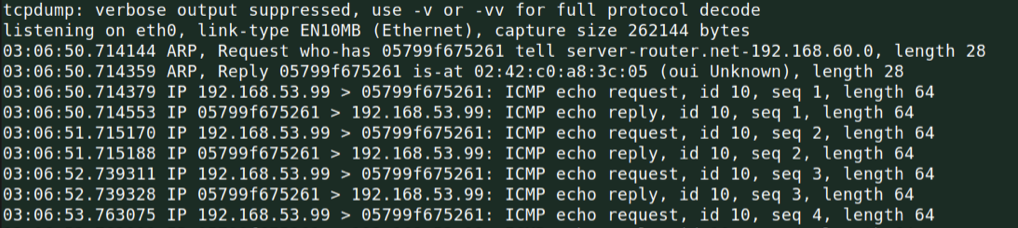
And on Host U, I pinged 192.168.53.4 to check what happened.

****No response in client.****Server code result:****If we ping to 192.168.60.5****It is not working so I have to add new line below in client code:****The below result shows we are getting there.****

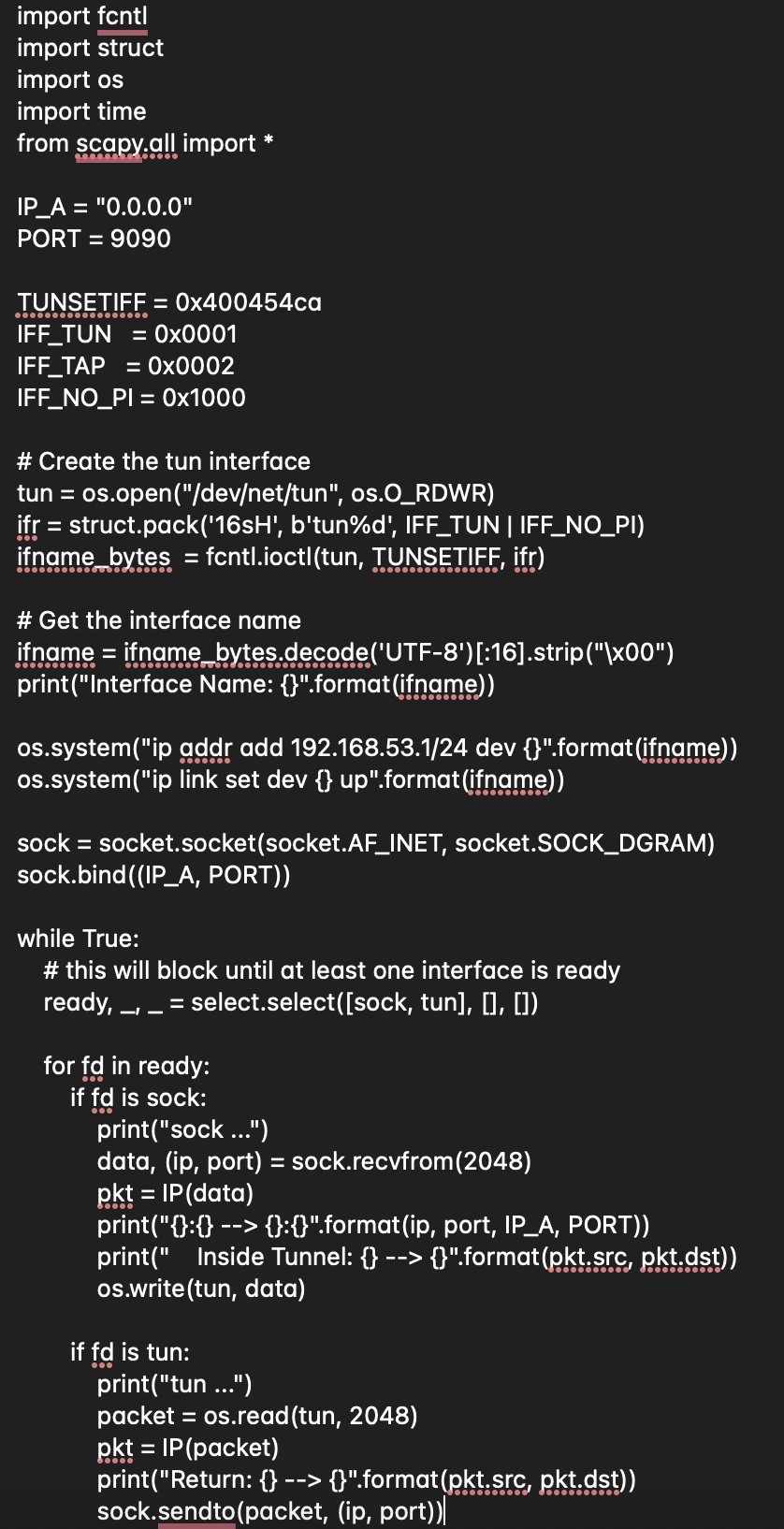
**Task 4**

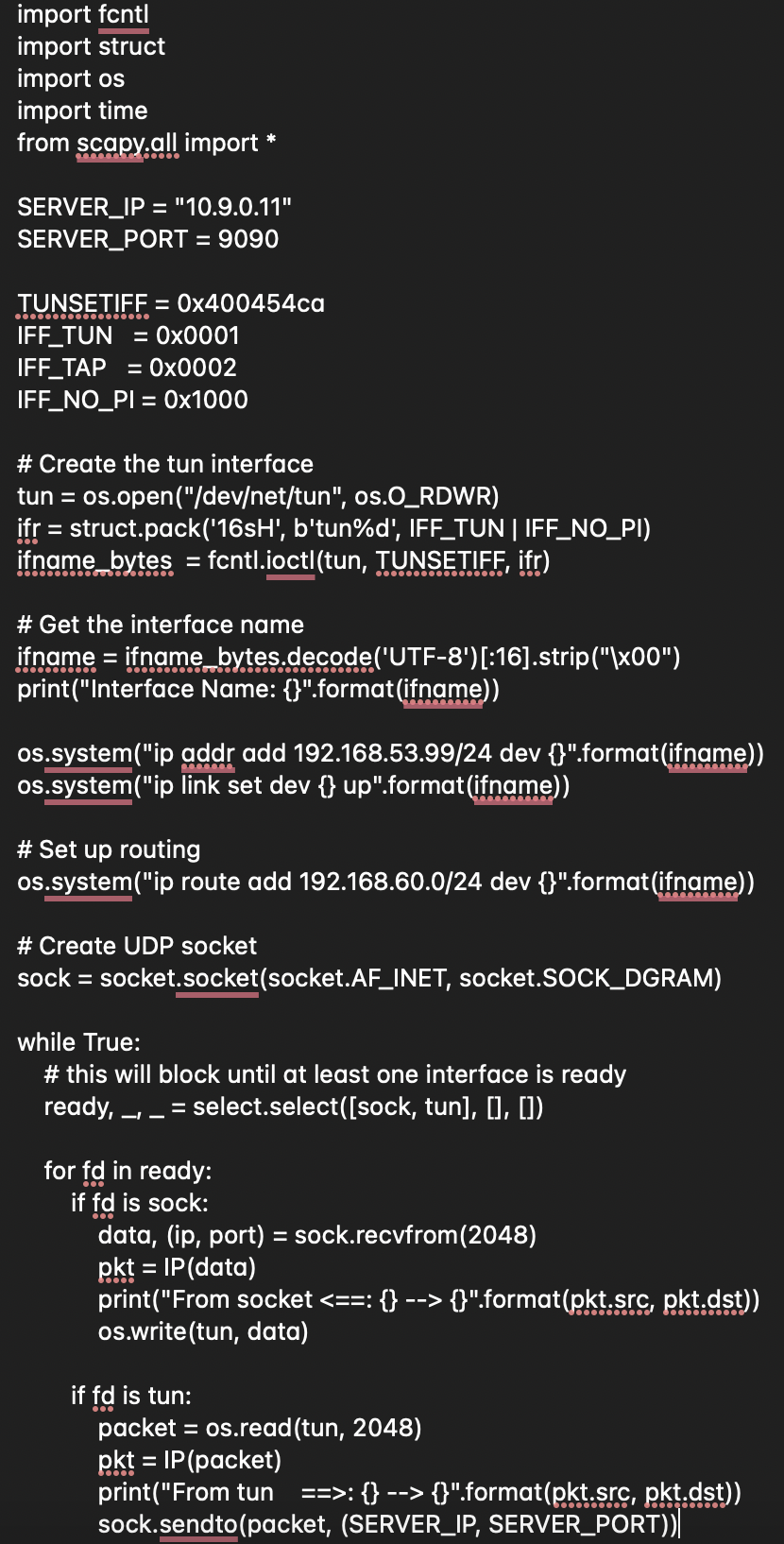
In this task I have to route the packet from kernel to final destination

**Server code ran on server:  
**

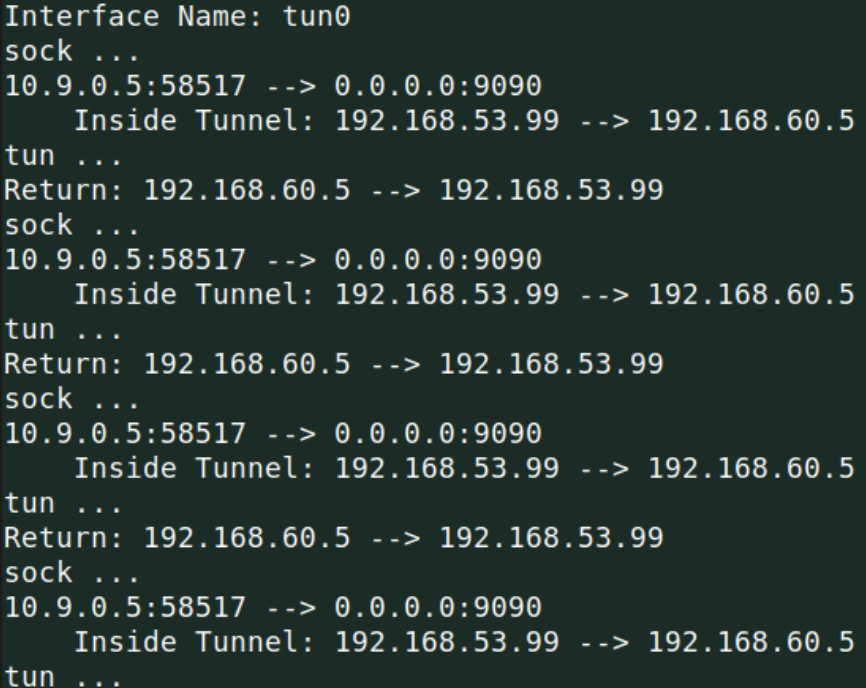
Server code response****Tcpdump information****

**Task 5**

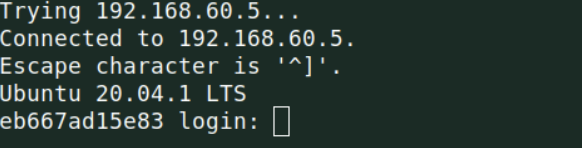
**Server:  
**

**Client:  
**

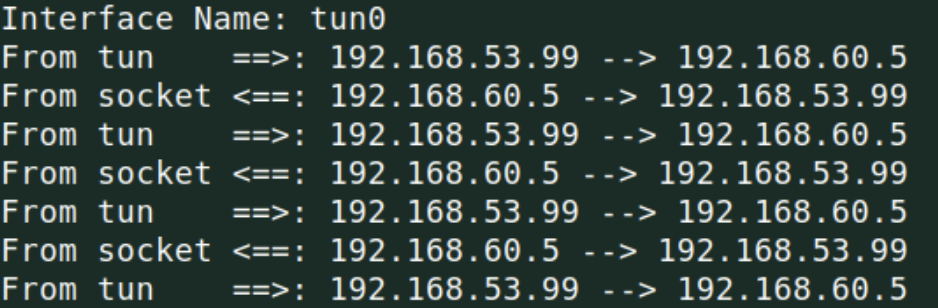
I ran the codes in host U and these are the observation on server side with destination to host V

****

**For telnet:**

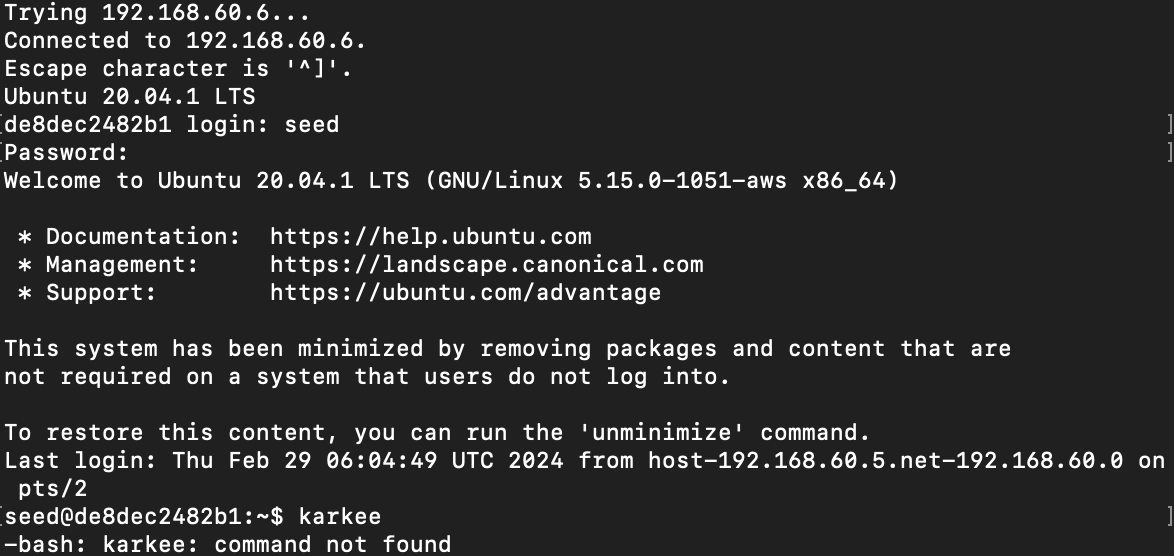


Client code response(We can see everything working)

****

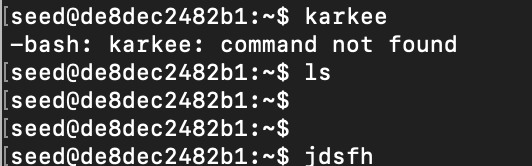
**Task 6**

First I ran this using telnet

****

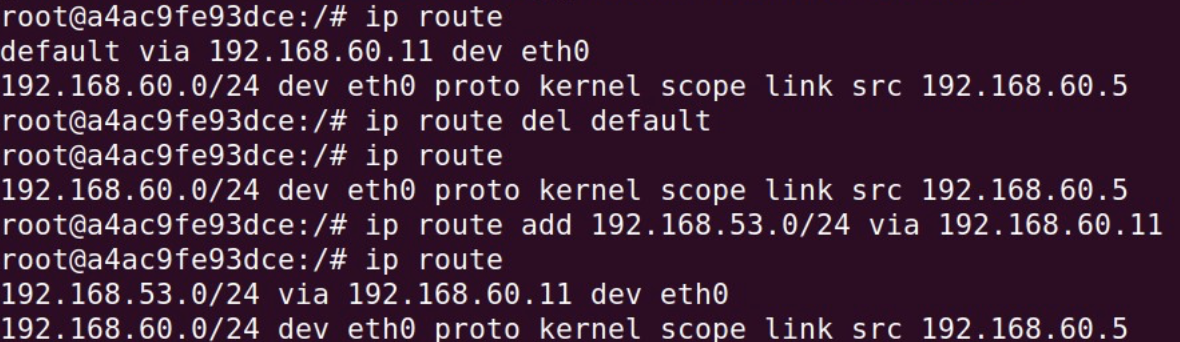
Then I stopped the server code

I typed commands after the server code stopped. I got them when I resumed the code

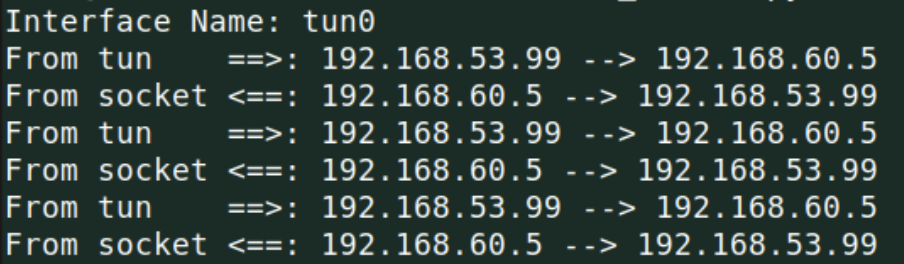
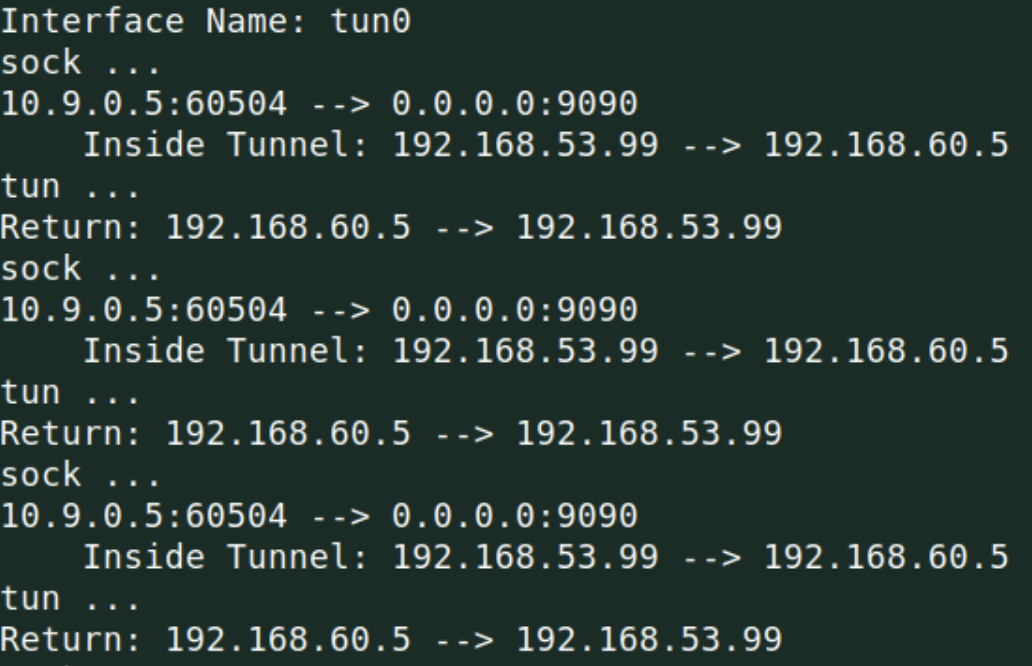


**Task 7**

Adding new route after deleting the default

****

After running server code i pinged 192.168.60.5 from U and these are the result on client and server codes

**ClientServer**

So, I was able to ping host V from U.