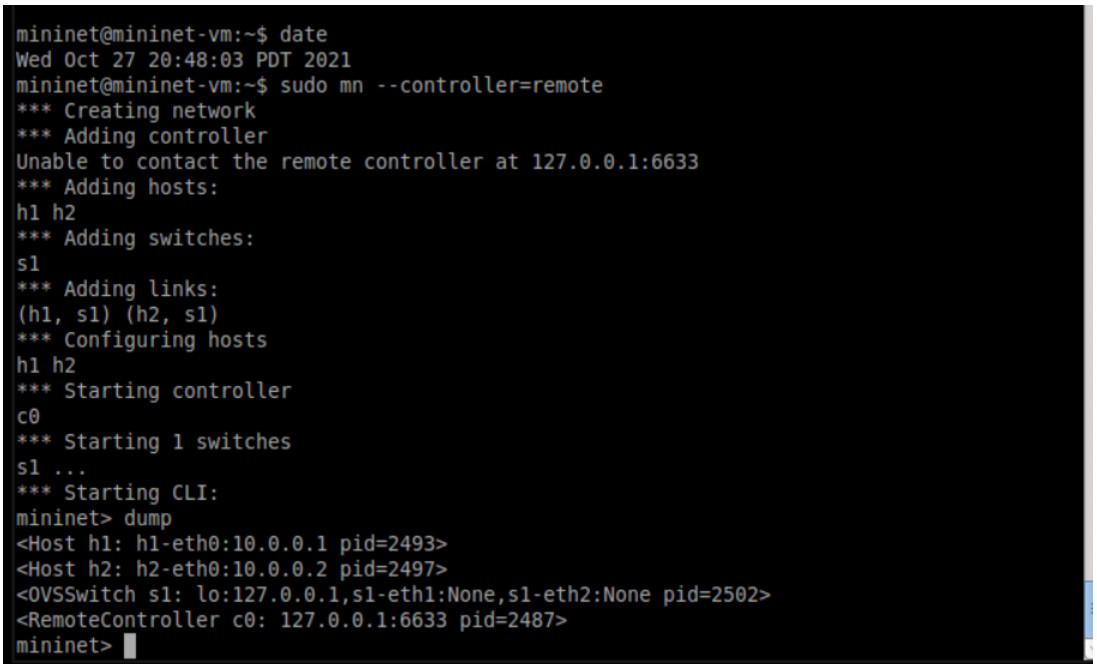
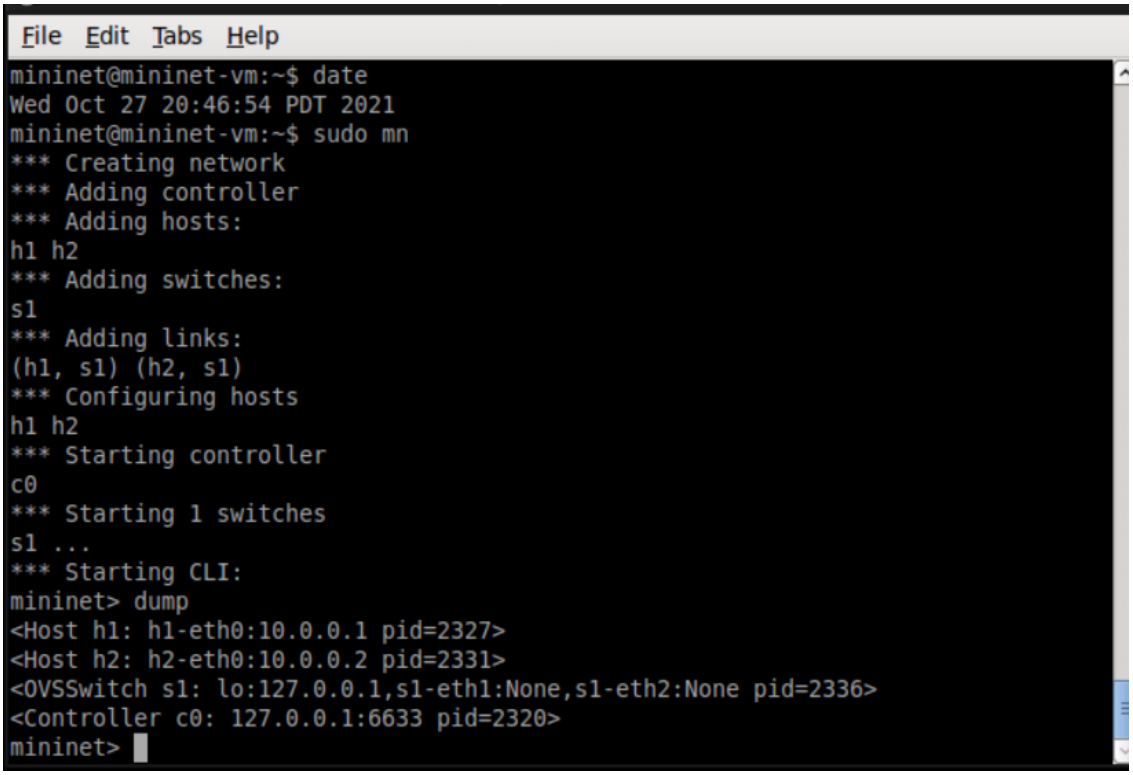
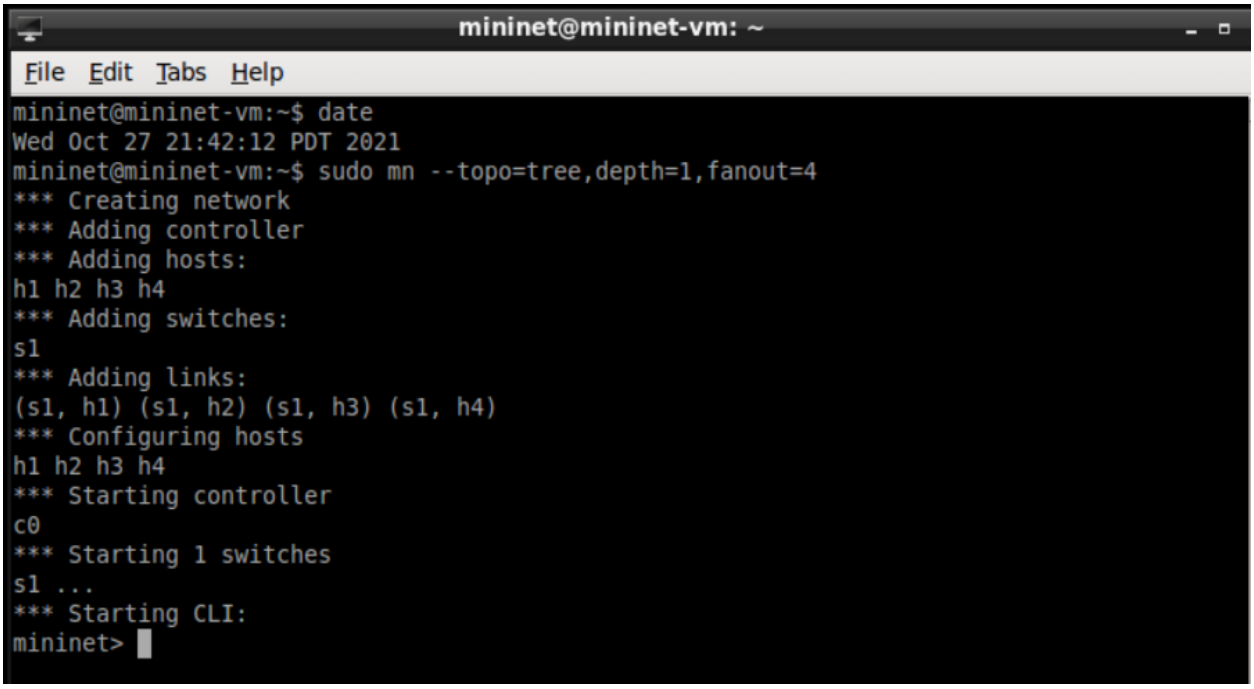
Max Gasser
CSE 150
Prelab 3

1. The command in order to display the controller is dump





2. Using the command line you type in the command “sudo mn --topo,depth=1,fanout=4”



3. 2 types of middle boxes are Firewalls and load balancers
   a. A Firewall is a middle box that manages the traffic coming to and from a controller. Its use is that it can block certain bad messages from going through that could be harmful to the client/host/server. While at the same time allowing for non hazardous packets to pass unharmed. A load balancer is a type of reverse proxy that helps connect multiple computers or other devices to a network. It is very useful because it helps multiple devices be hosted on the same network and send and receive messages without any disruption.
   b. The controller could simply forward every message it receives to all other devices that are connected to it. From the pox controller we could use the ping all command to help ping everything on the network.

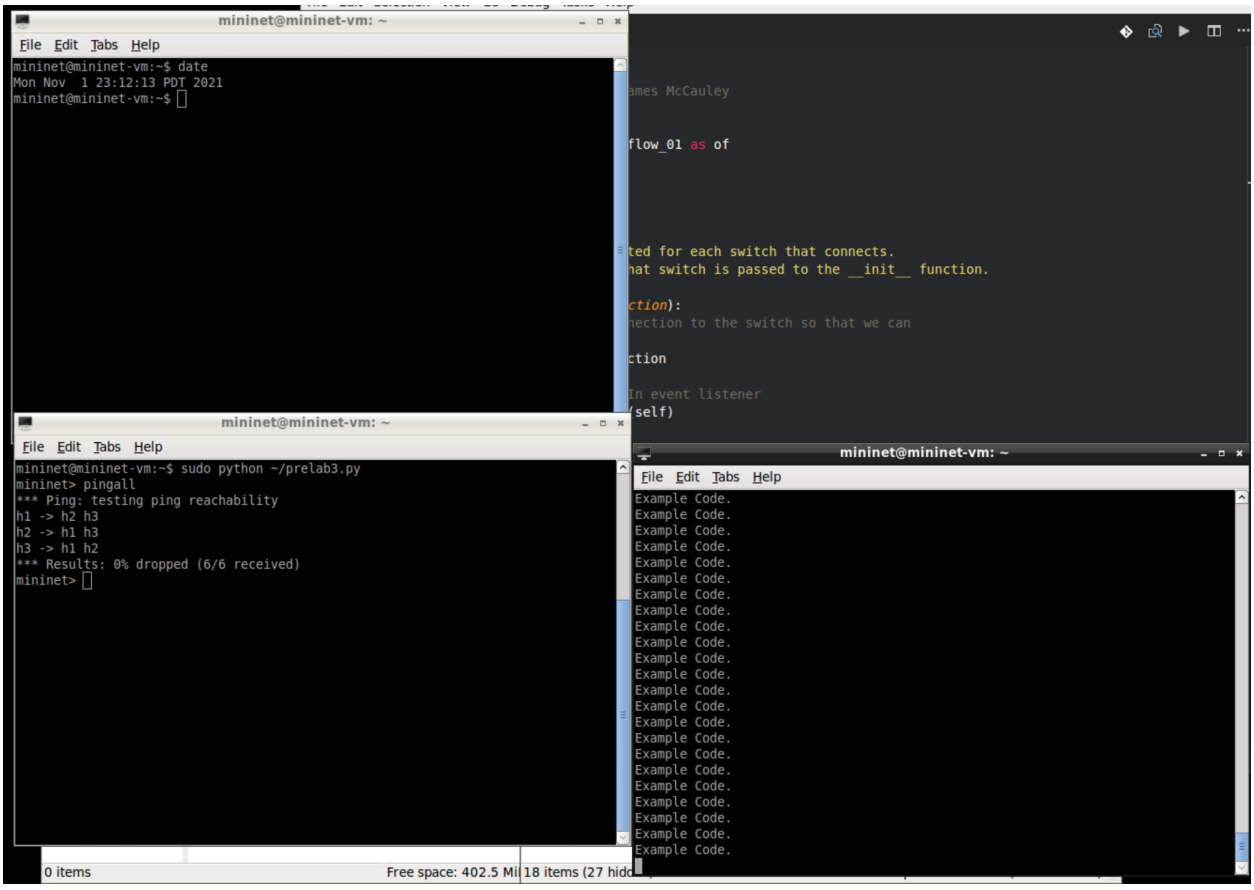
4. Load Balancer

5. Each time you receive a message you could set a new flow entry that specifies it to go to the next output por that is available.

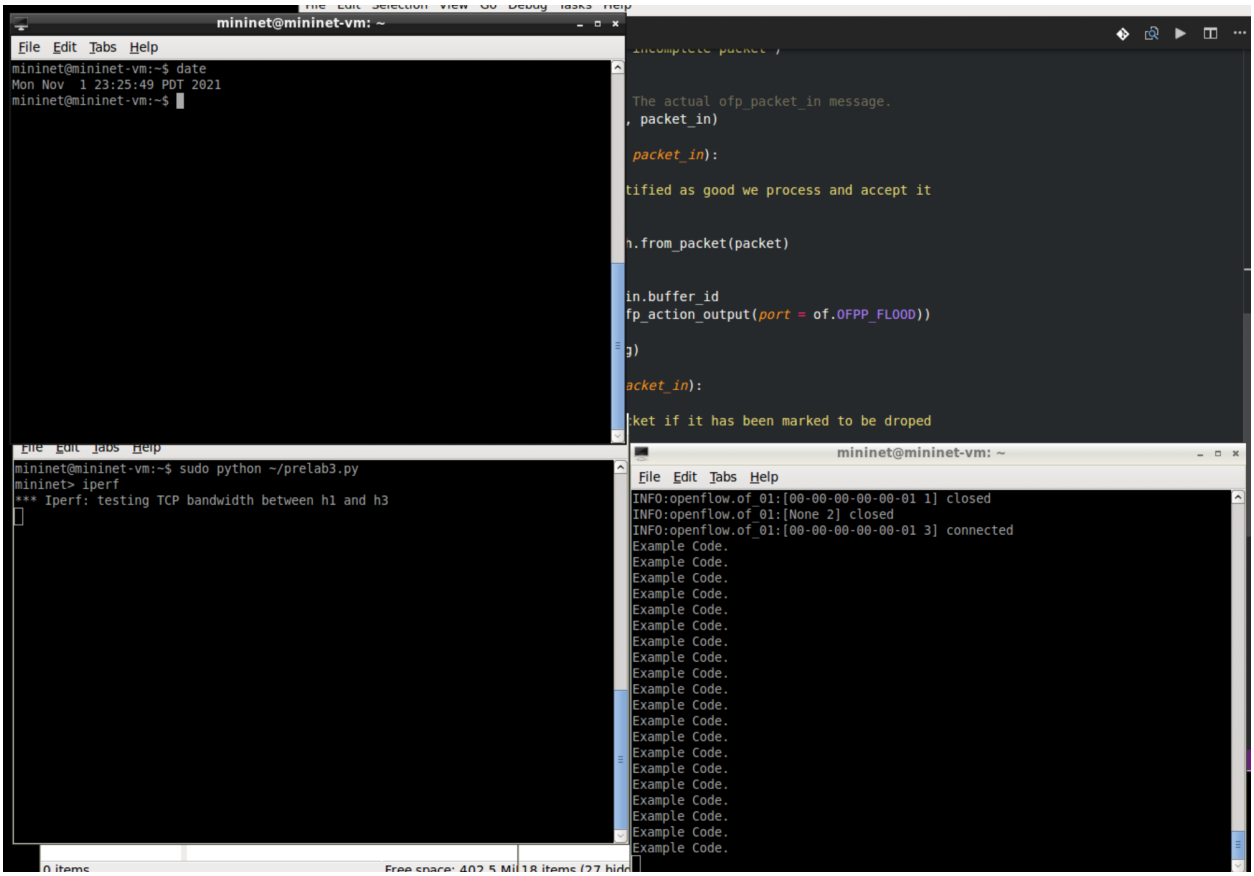
6.

a: prelab3controller.py
b: prelab3.py
c: POX controller
d: “s1” or switch 1
e: “h1” ip: 10.0.1.10/24
F: “h2” ip: 10.0.1.20/24
g: “h3” ip: 10.0.1.30/24

7. From using pingall I expect there to be packets sent to all 3 of the hosts from the switch. I expect there to be no packet loss since there are no TCP messages being sent and those are the only types of packets that should be getting dropped based off the functionality.



8. I expect nothing to happen since the packets being sent using iperf are TCP packets. Since the functionality of our firewall drops all TCP packets, all the packets being sent are dropped thus the messages that are being sent from h1 and h3 are all dropped. Thus iperf never completes as it continuously keeps sending new packets but everytime they are dropped.



9. If I was explaining a firewall to a friend I would say that a firewall is a program that essentially looks through the messages being sent to a server/host/client and based on what those messages are blocks certain types of messages from having their data be stored or looked at. Essentially it helps block attacks and viruses by dropping packets that we don't want.