Question 1 - How did you deployed the controller?

To get the controller up and running, I first installed the POX controller using the steps defined in the assignment 3 document description. I then modified the skeleton POX controller to create the firewall to implement the required rules.

The steps I took to finish part 2 were first to see a description of the SDN controller and POX to understand the basics; for example, pox uses OpenFlow version 1.0 [1]. Then I reviewed pox communication and the function for sending [2].

Inside the sending functions, we use specific switch rules. To find out what I am putting there, I had to do additional research on OpenFlow actions and switch configurations for the protocols [3] and [4]. The OpenFlow Switch and Controller Commands may be applied to OpenFlow switches using any connection methods described in

that section. Unlike those commands, these may also be applied to OpenFlow controllers [4].

After deploying the controller, it was just a matter of running the topology using Mininet, explained in the next question, to verify that the code provided is correct and that it successfully follows the rules for the firewall.

Question 2 - How did you run Mininet with the new topology?

Step 1.- Run the controller implementation.

```
| alycordero_alycordero_vitual_machine: -/Documents/DTEP-Networks/D-packet-filtering-doin/pox/pox
| Alycordero_alycordero_vitual_machine: -/Documents/DTEP-Networks/D-packet-filtering-doin/pox
| Alycordero_alycordero_vitual_machine: -/Documents/DTEP-Networks/D-packet-filtering-doin/pox
| Alycordero_alycordero_vitual_machine: -/Documents/DTEP-Networks/D-packet-filtering-doin/pox
| Alycordero_alycordero_vitual_machine: -/Documents/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP-Networks/DTEP
```

Step 2.- Run the part2 topology with Mininet, but in the command you need to specify the topology, the controller, and the port to use (6633).

```
alycordero@alycordero-virtual-machine: /Documents/JTEP-Networks/5-packet-filtering-adm/pou/pox

alycordero@alycordero-virtual-machine: /Documents/JTEP-Networks/5-packet-filtering-adm

alycordero@alycordero-virtual-machine: /Documents/JTEP
```

Resources:

- [1] https://www.comp.nus.edu.sg/~tbma/teaching/cs4226y15_past/tut-pox-pdf.pdf
- [2]https://noxrepo.github.io/pox-doc/html/
- [3] http://rlenglet.github.io/openfaucet/action.html#openfaucet.ofaction.openfaucet.ofproto.OFPP_FLOOD
- [4] https://www.openvswitch.org/support/dist-docs-2.5/ovs-ofctl.8.txt