Exercise 1

E/15/202

Tasks:

1. Identify the criteria that you can use for packet filtering.

We can use IP address for packet filtering

2. Use MAC address or IP address to filter packets and simulate it using Omnet++.

I used IP address for packet filtering.

Code can be found in **PacketFilter.cc**

3. Identify the security implications of your module.

In the given code, controller only blocks a specific ip address (192.168.1.1). But this blocked person can retry with a different ip address (Any one can replicate an ip address).

4. Propose a mechanism to overcome this.

Because of the above mentioned security implications using ip address for packet filtering is not a very good method. Although the client (or the traffic attacker) can change the ip address, the message they want to send will be the same. Since the openflow controller can see everything, we can implement the controller to block all the packets with a specific type of message content or specific type of application.

Therefore in the below simulation, client 1 sends a packet with the content ***"Hello, I am client 1"***, when the packet reach the controller, it checks the message content and when it sees that it content is ***"Hello, I am client 1"*** , the packet will be blocked.

5. Change your simulation model to overcome the said problem.