Homework 1: Assuming that you are managing a network with the following topology:

Port number

A

 S1

0

0

2

1

C

3

1

2

1

0

D

B

 S3

 S2

2

IP address of A: IA, Ethernet address of A: EA; IP address of B: IB, Ethernet address of B: EB; IP address of C: IC, Ethernet address of C: EC; IP address of D: ID, Ethernet address of D: ED.

Specify the Openflow rules on switches S1, S2, S3 that enforce the following policies. Make sure that all needed communication including acknowledgement can happen.

* Nodes A, B, and C can talk to one another freely.
* Node D has access to ports 22 and 80 of Nodes A and B, but nothing else.
* Node D and Node C cannot talk to each other.