

Homework 4

Problem 4.1

Solution:

a) Pinging Ai

```
PING 2001:638:709:a4::1(2001:638:709:a4::1) 56 data bytes
64 bytes from 2001:638:709:a4::1: icmp_seq=1 ttl=61 time=0.115 ms
64 bytes from 2001:638:709:a4::1: icmp_seq=2 ttl=61 time=0.117 ms
64 bytes from 2001:638:709:a4::1: icmp_seq=3 ttl=61 time=0.149 ms
64 bytes from 2001:638:709:a4::1: icmp_seq=4 ttl=61 time=0.099 ms
64 bytes from 2001:638:709:a4::1: icmp_seq=5 ttl=61 time=0.083 ms
```

```
— 2001:638:709:a4::1 ping statistics —
5 packets transmitted, 5 received, 0% packet loss, time 98ms
rtt min/avg/max/mdev = 0.083/0.112/0.149/0.024 ms
```

Pinging Bi

```
PING 2001:638:709:b2::1(2001:638:709:b2::1) 56 data bytes
64 bytes from 2001:638:709:b2::1: icmp_seq=1 ttl=62 time=0.111 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=2 ttl=62 time=0.084 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=3 ttl=62 time=0.095 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=4 ttl=62 time=0.099 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=5 ttl=62 time=0.083 ms
```

```
— 2001:638:709:b2::1 ping statistics —
5 packets transmitted, 5 received, 0% packet loss, time 101ms
rtt min/avg/max/mdev = 0.083/0.094/0.111/0.013 ms
```

b) Pinging before disabling a link

```
PING 2001:638:709:b3::1(2001:638:709:b3::1) 56 data bytes
64 bytes from 2001:638:709:b3::1: icmp_seq=1 ttl=62 time=0.060 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=2 ttl=62 time=0.094 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=3 ttl=62 time=0.084 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=4 ttl=62 time=0.096 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=5 ttl=62 time=0.094 ms
```

```
— 2001:638:709:b3::1 ping statistics —
5 packets transmitted, 5 received, 0% packet loss, time 104ms
rtt min/avg/max/mdev = 0.060/0.085/0.096/0.016 ms
```

Using IP command to disable link e2-eth0 between b2 and b3

```
PING 2001:638:709:b3::1(2001:638:709:b3::1) 56 data bytes
64 bytes from 2001:638:709:b3::1: icmp_seq=1 ttl=60 time=0.082 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=2 ttl=60 time=0.111 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=3 ttl=60 time=0.116 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=4 ttl=60 time=0.118 ms
64 bytes from 2001:638:709:b3::1: icmp_seq=5 ttl=60 time=0.158 ms
```

```
— 2001:638:709:b3::1 ping statistics —
5 packets transmitted, 5 received, 0% packet loss, time 79ms
rtt min/avg/max/mdev = 0.082/0.117/0.158/0.024 ms
```

c) Pinging from Ai's side to Bi's side.

```
PING 2001:638:709:b2::1(2001:638:709:b2::1) 56 data bytes
64 bytes from 2001:638:709:b2::1: icmp_seq=1 ttl=59 time=0.152 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=2 ttl=59 time=0.143 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=3 ttl=59 time=0.122 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=4 ttl=59 time=0.129 ms
64 bytes from 2001:638:709:b2::1: icmp_seq=5 ttl=59 time=0.146 ms
```

— 2001:638:709:b2::1 ping statistics —

5 packets transmitted, 5 received, 0% packet loss, time 106ms
rtt min/avg/max/mdev = 0.122/0.138/0.152/0.015 ms

d) The code can be checked in the configuration files.

e) The code can be checked in the configuration files.

References:

Discussion / working group:

Dragi Kamov; Brian Sherif Hanna; Fezile Manana

Websites used:

https://bird.network.cz/?get_doc&f=bird.html&v=20

https://access.redhat.com/sites/default/files/attachments/rh_ip_command_cheatsheet_1214_jcs_print.pdf

<https://github.com/sanabby/bird-bgp-ospf/blob/master/sample-bird-configs/bird.conf.OSPF>