ASSIGNMENT – 3

Exercise – 2

CSCI-6708 Advanced Network Security

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Exercise 2:

Program one for standard ACL

Input one:

Acl statement:

access-list 3 deny 172.16.4.0 0.0.0.255

access-list 3 permit 172.16.0.0 0.0.255.255

interface EO

ip access-group 3 out

Ip List:

172.16.4.1

172.16.3.5

201.15.3.4

Program output:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python standard.py acl1.txt acl1_input.txt
Hi, sumit singh
Packet from 172.16.4.1 is denied
Packet from 172.16.3.5 is permitted
Packet from 201.15.3.4 is denied
PS C:\sumit\winter 2022\NS\a2\aclprogram>
```

Input two:

Acl statement:

access-list 5 deny 170.16.20.0 0.0.0.255

access-list 5 permit 0.0.0.0 255.255.255.255

R3 # interface E1

Ip access group 5 out

Ip List:

170.16.20.230

170.16.80.10

173.3.3.3

Program output:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python standard.py acl2.txt acl2_input.txt
Hi, sumit singh
Packet from 170.16.20.230 is denied
Packet from 170.16.80.10 is permitted
Packet from 173.3.3.3 is permitted
PS C:\sumit\winter 2022\NS\a2\aclprogram> █
```

Input three:

Acl statement:

access-list 2 deny 170.16.40.0 0.0.0.255

access-list 2 permit 170.16.0.0 0.0.255.255

R2 # interface E0

Ip access group 2 out

Ip List:

170.16.40.0

170.16.23.54

170.11.4.22

Program output:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python standard.py acl3.txt acl3_input.txt
Hi, sumit singh
Packet from 170.16.40.0 is denied
Packet from 170.16.23.54 is permitted
Packet from 170.11.4.22 is denied
PS C:\sumit\winter 2022\NS\a2\aclprogram> █
```

Program one for extended ACL

Input one:

Acl statement:

access-list 101 deny tcp 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255 eq 21

access-list 101 permit ip 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255

interface EO

ip access-group 101 out

<u>Ip List</u>:

172.25.3.1 172.16.3.4 22

172.16.4.4 172.16.3.5 22

172.16.4.4 172.16.3.5 21

172.16.5.78 172.16.3.1 21

<u>Program output</u>:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python main.py e_acl_1.txt e_acl_1_input.txt
Hi, sumit singh
Packet from 172.25.3.1 to 172.16.3.4 on port 22 denied
Packet from 172.16.4.4 to 172.16.3.5 on port 22 permitted
Packet from 172.16.4.4 to 172.16.3.5 on port 21 denied
Packet from 172.16.5.78 to 172.16.3.1 on port 21 denied
PS C:\sumit\winter 2022\NS\a2\aclprogram>
```

Input two:

<u>Acl statement</u>:

access-list 104 permit tcp 170.16.10.5 0.0.0.0 170.16.70.0 0.0.0.255 range 22

access-list 104 deny tcp 170.16.0.0 0.0.255.255 170.16.70.0 0.0.0.255 range 22

access-list 104 permit ip 170.16.0.0 0.0.255.255 0.0.0.0 255.255.255.255

R3 # interface E1

Ip access group 104 out

<u>Ip List</u>:

170.16.10.5 170.16.70.111 22

170.16.10.5 170.16.70.111 80

170.16.5.12 170.16.70.1 22

170.16.6.90 192.45.77.2 59

Program output:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python main.py e_acl_2.txt e_acl_2_input.txt
Hi, sumit singh
Packet from 170.16.10.5 to 170.16.70.111 on port 22 permitted
Packet from 170.16.10.5 to 170.16.70.111 on port 80 permitted
Packet from 170.16.5.12 to 170.16.70.1 on port 22 denied
Packet from 170.16.6.90 to 192.45.77.2 on port 59 permitted
PS C:\sumit\winter 2022\NS\a2\aclprogram>
```

Input three:

Acl statement:

access-list 102 deny tcp 170.16.50.75 0.0.0.0 170.16.70.2 0.0.0.0 eq 80

access-list 102 deny tcp 170.16.50.7 0.0.0.0 170.16.70.2 0.0.0.0 eq 80

access-list 102 permit ip 0.0.0.0 255.255.255.255 0.0.0.0 255.255.255.255

R3 # interface E0

Ip access group 102 out

Ip List:

170.16.50.75 170.16.70.2 80

170.16.50.7 170.16.70.2 80

170.16.50.7 170.16.70.2 22

193.43.55.2 190.52.64.22 69

Program output:

```
PS C:\sumit\winter 2022\NS\a2\aclprogram> python main.py e_acl_3.txt e_acl_3_input.txt
Hi, sumit singh
Packet from 170.16.50.75 to 170.16.70.2 on port 80 denied
Packet from 170.16.50.7 to 170.16.70.2 on port 80 denied
Packet from 170.16.50.7 to 170.16.70.2 on port 22 permitted
Packet from 193.43.55.2 to 190.52.64.22 on port 69 permitted
PS C:\sumit\winter 2022\NS\a2\aclprogram>
```