

CSCI 6708

ADVANCED TOPICS IN NETWORK SECURITY

ASSIGNMENT - 3

Full Name: Vishaka Vinod

Banner ID: B00955686

Dal Email: vs235403@dal.ca

GitLab:

https://git.cs.dal.ca/vvinod/csci6708_w24_b00955686_vishaka_vinod.git

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Standard ACL 1

The input file 1 consists of the following ACL statements:

```
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
```

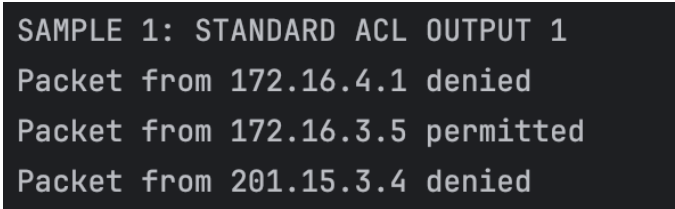
The input file 2 consists of the following source IP addresses:

```
172.16.4.1
172.16.3.5
201.15.3.4
```

The expected output is:

```
Packet from 172.16.4.1 denied
Packet from 172.16.3.5 permitted
Packet from 201.15.3.4 denied
```

The actual output is:



```
SAMPLE 1: STANDARD ACL OUTPUT 1
Packet from 172.16.4.1 denied
Packet from 172.16.3.5 permitted
Packet from 201.15.3.4 denied
```

Standard ACL 2

The input file 1 consists of the following ACL statements:

```
access-list 4 permit 192.15.0.0 0.0.255.255
access-list 4 permit 192.16.4.4 0.0.0.0
access-list 4 deny 192.16.0.0 0.0.255.255
access-list 4 permit 192.17.0.0 0.0.255.255
interface EO
ip access-group 4 out
```

The input file 2 consists of the following source IP addresses:

```
192.15.4.23
172.17.1.1
192.16.4.4
192.16.2.31
192.17.1.1
```

The expected output is:

```
Packet from 192.15.4.23 permitted
Packet from 172.17.1.1 denied
Packet from 192.16.4.4 permitted
Packet from 192.16.2.31 denied
Packet from 192.17.1.1 permitted
```

The actual output is:

```
SAMPLE 2: STANDARD ACL OUTPUT 2
Packet from 192.15.4.23 permitted
Packet from 172.17.1.1 denied
Packet from 192.16.4.4 permitted
Packet from 192.16.2.31 denied
Packet from 192.17.1.1 permitted
```

Standard ACL 3

The input file 1 consists of the following ACL statements:

```
access-list 5 deny 170.16.10.5 0.0.0.0
access-list 5 deny 170.16.4.0 0.0.0.255
access-list 5 permit 170.16.0.0 0.0.255.255
interface E0
ip access-group 5 out
```

The input file 2 consists of the following source IP addresses:

```
170.16.10.10
170.16.10.5
170.16.4.5
170.16.10.4
```

The expected output is:

```
Packet from 170.16.10.10 permitted
Packet from 170.16.10.5 denied
Packet from 170.16.4.5 denied
Packet from 170.16.10.4 permitted
```

The actual output is:

```
SAMPLE 3: STANDARD ACL OUTPUT 3
Packet from 170.16.10.10 permitted
Packet from 170.16.10.5 denied
Packet from 170.16.4.5 denied
Packet from 170.16.10.4 permitted
```

Standard ACL 4

The input file 1 consists of the following ACL statements:

```
access-list 6 deny 170.16.10.5 0.0.0.0
access-list 6 deny 192.17.20.0 0.0.0.255
access-list 6 permit any
interface E0
ip access-group 6 out
```

The input file 2 consists of the following source IP addresses:

```
170.16.10.5  
170.16.10.6  
192.23.12.3  
192.17.20.2
```

The expected output is:

```
Packet from 170.16.10.5 denied  
Packet from 170.16.10.6 permitted  
Packet from 192.23.12.3 permitted  
Packet from 192.17.20.2 denied
```

The actual output is:

```
SAMPLE 4: STANDARD ACL OUTPUT 4  
Packet from 170.16.10.5 denied  
Packet from 170.16.10.6 permitted  
Packet from 192.23.12.3 permitted  
Packet from 192.17.20.2 denied
```

Extended ACL 1

The input file 1 consists of the following ACL statements:

```
access-list 101 deny tcp 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255 range
20-21
access-list 101 permit ip 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255
interface E0
ip access-group 101 out
```

The input file 2 consists of the following source and destination IP addresses with port numbers:

```
172.16.4.4 172.16.3.1 20
172.16.4.4 172.16.3.5 22
172.25.3.1 172.16.3.4 22
```

The expected output is:

```
Packet from 172.16.4.4 to 172.16.3.1 on port 20 denied
Packet from 172.16.4.4 to 172.16.3.5 on port 22 permitted
Packet from 172.25.3.1 to 172.16.3.4 on port 22 denied
```

The actual output is:

```
SAMPLE 1: EXTENDED ACL OUTPUT 1
Packet from 172.16.4.4 to 172.16.3.1 on port 20 denied
Packet from 172.16.4.4 to 172.16.3.5 on port 22 permitted
Packet from 172.25.3.1 to 172.16.3.4 on port 22 denied
```

Extended ACL 2

The input file 1 consists of the following ACL statements:

```
access-list 102 deny tcp 170.16.20.0 0.0.0.255 170.16.70.0 0.0.0.255 eq 23
access-list 102 permit tcp 170.16.20.0 0.0.0.255 170.16.70.0 0.0.0.255
range 20-21
access-list 102 permit ip 172.16.50.75 0.0.0.0 172.16.70.2 0.0.0.0
interface E0
ip access-group 101 out
```

The input file 2 consists of the following source and destination IP addresses with port numbers:

```
170.16.20.22 170.16.70.2 20
170.16.20.22 170.16.70.2 23
170.16.20.22 170.16.70.2 22
172.16.50.75 172.16.70.1 21
172.16.50.75 172.16.70.2 21
```

The expected output is:

```
Packet from 170.16.20.22 to 170.16.70.2 on port 20 permitted
Packet from 170.16.20.22 to 170.16.70.2 on port 23 denied
Packet from 170.16.20.22 to 170.16.70.2 on port 22 denied
Packet from 172.16.50.75 to 172.16.70.1 on port 21 denied
Packet from 172.16.50.75 to 172.16.70.2 on port 21 permitted
```

The actual output is:

```
SAMPLE 2: EXTENDED ACL OUTPUT 2
Packet from 170.16.20.22 to 170.16.70.2 on port 20 permitted
Packet from 170.16.20.22 to 170.16.70.2 on port 23 denied
Packet from 170.16.20.22 to 170.16.70.2 on port 22 denied
Packet from 172.16.50.75 to 172.16.70.1 on port 21 denied
Packet from 172.16.50.75 to 172.16.70.2 on port 21 permitted
```

Extended ACL 3

The input file 1 consists of the following ACL statements:

```
access-list 103 permit udp 192.15.22.5 0.0.0.0 172.17.0.0 0.0.255.255 eq 53
access-list 103 permit ip 172.17.62.12 0.0.0.0 172.17.10.1 0.0.0.0
access-list 103 deny ip 172.17.62.12 0.0.0.0 172.0.0.0 0.255.255.255
interface E0
ip access-group 101 out
```

The input file 2 consists of the following source and destination IP addresses with port numbers:

```
192.168.1.4 172.17.10.1 22
192.15.22.5 172.17.10.1 53
192.15.22.5 172.17.10.1 20
172.17.62.12 172.17.10.1 21
172.17.62.12 172.17.10.10 21
```

The expected output is:

```
Packet from 192.168.1.4 to 172.17.10.1 on port 22 denied
Packet from 192.15.22.5 to 172.17.10.1 on port 53 permitted
Packet from 192.15.22.5 to 172.17.10.1 on port 20 denied
Packet from 172.17.62.12 to 172.17.10.1 on port 21 permitted
Packet from 172.17.62.12 to 172.17.10.10 on port 21 denied
```

The actual output is:

```
SAMPLE 3: EXTENDED ACL OUTPUT 3
Packet from 192.168.1.4 to 172.17.10.1 on port 22 denied
Packet from 192.15.22.5 to 172.17.10.1 on port 53 permitted
Packet from 192.15.22.5 to 172.17.10.1 on port 20 denied
Packet from 172.17.62.12 to 172.17.10.1 on port 21 permitted
Packet from 172.17.62.12 to 172.17.10.10 on port 21 denied
```

Extended ACL 4

The input file 1 consists of the following ACL statements:

```
access-list 104 deny tcp 170.16.10.5 0.0.0.0 170.16.70.0 0.0.0.255 eq 23
access-list 104 permit ip any any
interface E0
ip access-group 101 out
```

The input file 2 consists of the following source and destination IP addresses with port numbers:

```
170.16.10.5 170.16.70.3 23
170.16.10.5 170.16.70.3 22
192.17.1.9 182.16.19.23 20
```

The expected output is:

```
Packet from 170.16.10.5 to 170.16.70.3 on port 23 denied
Packet from 170.16.10.5 to 170.16.70.3 on port 22 permitted
Packet from 192.17.1.9 to 182.16.19.23 on port 20 permitted
```

The actual output is:

SAMPLE 4: EXTENDED ACL OUTPUT 4

```
Packet from 170.16.10.5 to 170.16.70.3 on port 23 denied
Packet from 170.16.10.5 to 170.16.70.3 on port 22 permitted
Packet from 192.17.1.9 to 182.16.19.23 on port 20 permitted
```