CSCI 6708 Assignment-3 [2]

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Exercise 2

standard ACL program:

Input 1:

```
172.16.4.1
172.16.3.5
201.15.3.4


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 E0
ip access-group 3 out
```

Output 1:

```
→  acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/acl.py"
Packet from 172.16.4.1 denied
Packet from 172.16.3.5 permitted
Packet from 201.15.3.4 denied
→  acl
```

Input 2:

```
input >  ☰ acl2.txt
   1      172.16.4.0
   2      172.16.3.21
   3      201.15.5.4
   4
   5      access-list 1 deny any
   6      interface E0
   7      ip access-group 1 out
   8      |
```

Output 2:

```
→  acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/acl.py"
Packet from 172.16.4.0 denied
Packet from 172.16.3.21 denied
Packet from 201.15.5.4 denied
→  acl ▯
```

Input 3:

```
input >  ☰ acl2.txt
   1      172.16.4.0
   2      172.16.3.21
   3      201.15.5.8
   4
   5      access-list 3 permit 172.16.4.0 0.0.0.255
   6      access-list 3 deny 172.16.4.0 0.0.0.255
   7      access-list 3 permit 172.16.0.0 0.0.255.255
   8      interface E0
   9      ip access-group 3 out
```

Output 3:

```
→ acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/acl.py"
Packet from 172.16.4.0 permitted
Packet from 172.16.3.21 permitted
Packet from 201.15.5.8 denied
→ acl ▐
```

extended ACL program:

Input 1:

```
input >  ≡ ext-acl2.txt
  1    172.16.4.4 172.16.3.1 20
  2    172.16.4.4 172.16.3.5 22
  3    172.25.3.1 172.16.3.4 22
  4
  5    access-list 101 deny tcp 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255 range 20-21
  6    access-list 101 permit ip 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255
  7    interface E0
  8    ip access-group 101 out
```

Output 1:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

→ acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/ext-acl.py"
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
→ acl ▐
```

Input 2:

```
input >  ☰ ext-acl2.txt
  1    172.16.4.4 172.16.3.1 20
  2    172.16.4.4 172.16.3.5 22
  3    172.25.3.1 172.16.3.4 22
  4
  5    access-list 101 deny tcp 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255 range 20-21
  6    access-list 101 permit ip any any
  7    interface E0
  8    ip access-group 101 out
```

Output 2:

```
→  acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/ext-acl.py"
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 permitted
→  acl ▮
```

Input 3:

```
input >  ☰ ext-acl2.txt
  1    172.16.4.4 172.16.3.1 20
  2    172.16.4.4 172.16.3.5 22
  3    172.25.3.1 172.16.3.4 22
  4
  5    access-list 101 permit tcp 172.16.0.0 0.0.255.255 172.16.3.0 0.0.0.255 range 20-21
  6    access-list 101 deny ip any any
  7    interface E0
  8    ip access-group 101 out
```

Output 3:

```
Packet from 172.25.3.1 to 172.16.3.4 on port 22 permitted
→  acl /opt/homebrew/bin/python3 "/Users/manan/Documents/2 Sec/ass/acl/ext-acl.py"
Packet from 172.16.4.4 to 172.16.3.1 on port 20 permitted
Packet from 172.16.4.4 to 172.16.3.5 on port 22 denied
Packet from 172.25.3.1 to 172.16.3.4 on port 22 denied
→  acl ▮
```

References:

[1] "Configuring IP access lists," Cisco, 09-Jul-2021. [Online]. Available:
https://www.cisco.com/c/en/us/support/docs/security/ios-firewall/23602-confaccesslists.html.
[Accessed: 05-Mar-2022].

[2] "Python 3.10.2 documentation," *3.10.2 Documentation*. [Online]. Available:
https://docs.python.org/3/. [Accessed: 05-Mar-2022].