

COMP372I Assignment3

Q 1

For a target IP address of 14.12.72.8/24, find the following.

1. Target IP address in binary

00001110 00001100 01001000 00001000

2. Subnet mask in Binary

11111111 11111111 11111111 00000000

3. Subnet mask in dotted decimal

255.255.255.0

4. First address (i.e., network address) of the block

00001110 00001100 01001000 00000000₂ = 14.12.72.0/24

5. Last address (i.e., broadcast address) of the block

00001110 00001100 01001000 11111111₂ = 14.12.72.255/24

6. First host address of the block

14.12.72.1/24

7. Last host address of the block

14.12.72.254/24

8. Number of addresses in the block

$$2^{(32-24)} = 2^8 = 256$$

9. Maximum number of hosts in the block

254

Q 2

For a target IP address of 200.107.16.17/18, find the following.

1. Target IP address in binary

11001000 01101011 00010000 00010001

2. Subnet mask in binary

11111111 11111111 11000000 00000000

3. Subnet mask in dotted decimal

255.255.192.0

4. First address (i.e., network address) of the block

11001000 01101011 00000000 00000000₂ = 200.107.0.0/18

5. Last address (i.e., broadcast address) of the block

11001000 01101011 00111111 11111111₂ = 200.107.63.255/18

6. First host address of the block

200.107.0.1/18

7. Last host address of the block

200.107.63.254/18

8. Number of addresses in the block

$$2^{(32-18)} = 2^{14} = 16,384$$

9. Maximum number of hosts in the block

16382

Q 3

1. Display all the packets with source address 192.168.100.102.

```
ip.src == 192.168.100.102
```

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.100.102	142.104.193.247	TCP	74	45979 → 80 [SYN] Seq=0 Win=5840 Len=0 MSS=1460 SACK_PERM
3	0.002444	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=1 Ack=1 Win=5888 Len=0 TSval=611216
4	0.002527	192.168.100.102	142.104.193.247	HTTP	505	GET / HTTP/1.1
6	0.067816	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1449 Win=8832 Len=0 TSval=611216
8	0.067876	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1491 Win=8832 Len=0 TSval=611216

2. Display all the packets with source address 192.168.100.102 and destination address 142.104.193.247.

```
ip.src == 192.168.100.102 && ip.dst == 142.104.193.247
```

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.100.102	142.104.193.247	TCP	74	45979 → 80 [SYN] Seq=0 Win=5840 Len=0 MSS=1460 SACK_PERM
3	0.002444	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=1 Ack=1 Win=5888 Len=0 TSval=611216
4	0.002527	192.168.100.102	142.104.193.247	HTTP	505	GET / HTTP/1.1
6	0.067816	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1449 Win=8832 Len=0 TSval=611216
8	0.067876	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1491 Win=8832 Len=0 TSval=611216

3. Display all the HTTP packets.

http

No.	Time	Source	Destination	Protocol	Length	Info
4	0.002527	192.168.100.102	142.104.193.247	HTTP	505	GET / HTTP/1.1
47	0.094991	142.104.193.247	192.168.100.102	HTTP	1232	HTTP/1.1 200 OK (text/html)
53	0.802932	192.168.100.102	142.104.193.247	HTTP	583	GET /shared/shared_rootsite/images/logos/favicon.ico HTTP/1.1 200 OK (image/x-icon)
57	0.807179	142.104.193.247	192.168.100.102	HTTP	344	HTTP/1.1 200 OK (image/x-icon)
61	0.807483	192.168.100.102	142.104.193.247	HTTP	606	GET /shared/shared_rootsite/layout-components/css/layout.css HTTP/1.1 200 OK (text/css)

4. Display all the TCP packets with source address 192.168.100.102.

ip.src == 192.168.100.102 && tcp

No.	Time	Source	Destination	Protocol	Length	Info
3	0.002444	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=1 Ack=1 Win=5888 Len=0 TSval=611216 TStamp=1600000000.000000000
4	0.002527	192.168.100.102	142.104.193.247	HTTP	505	GET / HTTP/1.1
6	0.067816	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1449 Win=8832 Len=0 TSval=611216 TStamp=1600000000.067816000
8	0.067876	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=1491 Win=8832 Len=0 TSval=611216 TStamp=1600000000.067876000
10	0.070721	192.168.100.102	142.104.193.247	TCP	66	45979 → 80 [ACK] Seq=440 Ack=2939 Win=11648 Len=0 TSval=611216 TStamp=1600000000.070721000

5. Display all ICMP packets.

icmp

No.	Time	Source	Destination	Protocol	Length	Info

I didn't find one :(