

Question(A)

1.) Source IP address : 192.168.10.11 , Source port : 53924

Destination IP address : 138.76.29.8 , Destination port : 80

```
Src: 192.168.10.11, Dst: 138.76.29.8
1, Src Port: 53924, Dst Port: 80, Seq: 1, Ack: 1, Len: 330
```

2.) វេលា : 0.030672101

0.030672101

3.) Source IP address : 138.76.29.8, Source port : 80

Destination IP address : 192.168.10.11 , Destination port : 53924

```
Src: 138.76.29.8, Dst: 192.168.10.11  
L, Src Port: 80, Dst Port: 53924, Seq: 1, Ack: 331, Len: 547
```

4.) វេលា : 0.027356291

4 0.027356291

5.) Source IP address : 10.0.1.254 , Source port : 53924

Destination IP address : 138.76.29.8 , Destination port : 80

```
Src: 10.0.1.254, Dst: 138.76.29.8  
, Src Port: 53924, Dst Port: 80, Seq: 1, Ack: 1, Len: 330
```

6.) ถ้า Source IP address

7.) ไม่เปลี่ยนแปลง

nat-outside

```

Hypertext Transfer Protocol
> GET / HTTP/1.1\r\n
Host: 138.76.29.8\r\n
User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:75.0) Gecko/20100101 Firefox/75.0\r\n
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Connection: keep-alive\r\n
Upgrade-Insecure-Requests: 1\r\n
\r\n
[Full request URI: http://138.76.29.8/]
[HTTP request 1/2]
[Response in frame: 6]
[Next request in frame: 8]

```

nat-inside

```

Hypertext Transfer Protocol
> GET / HTTP/1.1\r\n
Host: 138.76.29.8\r\n
User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:75.0) Gecko/20100101 Firefox/75.0\r\n
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8\r\n
Accept-Language: en-US,en;q=0.5\r\n
Accept-Encoding: gzip, deflate\r\n
Connection: keep-alive\r\n
Upgrade-Insecure-Requests: 1\r\n
\r\n
[Full request URI: http://138.76.29.8/]
[HTTP request: 1/2]
[Response in frame: 6]
[Next request in frame: 8]

```

8.) Checksum และ TTL เปลี่ยนแปลง โดย nat-inside : Checksum = 0x65dc , TTL = 64 , nat-outside : Checksum = 0x2492 , TTL = 63

nat-outside

Internet Protocol Version 4			
Version 4	Header Len. 20	Differentiated Services Field 0x00	Total Length 382
Identification 0x6296 (25238)		Flags 0x2	Fragment Offset 0
Time to Live 63	Protocol TCP	Header Checksum 0x2492	
Source Address 10.0.1.254			
Destination Address 138.76.29.8			

nat-inside

Internet Protocol Version 4			
Version 4	Header Len... 20	Differentiated Services Field 0x00	Total Length 382
Identification 0x6296 (25238)		Flags 0x2	Fragment Offset 0
Time to Live 64	Protocol TCP	Header Checksum 0x64dc	
Source Address 192.168.10.11			
Destination Address 138.76.29.8			

9.) เวลา : 0.030625966

6 0.030625966

10.) Source IP address : 138.76.29.8, Source port : 80

Destination IP address : 10.0.1.254 , Destination port : 53924

Src: 138.76.29.8, Dst: 10.0.1.254
, Src Port: 80, Dst Port: 53924, Seq: 1, Ack: 331, Len: 547

11.) Source IP address : 138.76.29.8, Source port : 80

Destination IP address : 192.168.10.11 , Destination port : 53924

12.) ระบุได้ สังเกตได้จาก IP address , port ของ source และ destination คว้า NAT router มีการ generate IP address ใหม่ให้กับ IP address ของ ฝั่งไหน ฝั่งนั้นจึงจะถือว่าเป็นฝั่งที่เริ่มส่งข้อมูลก่อนการ NAT , สังเกตจาก TTL หากฝั่งไหนมี TTL มากกว่าจะถือว่าเป็นฝั่งส่งข้อมูลก่อน NAT เพราะเมื่อ NAT แล้ว จะมี TTL ลดลงไป 1