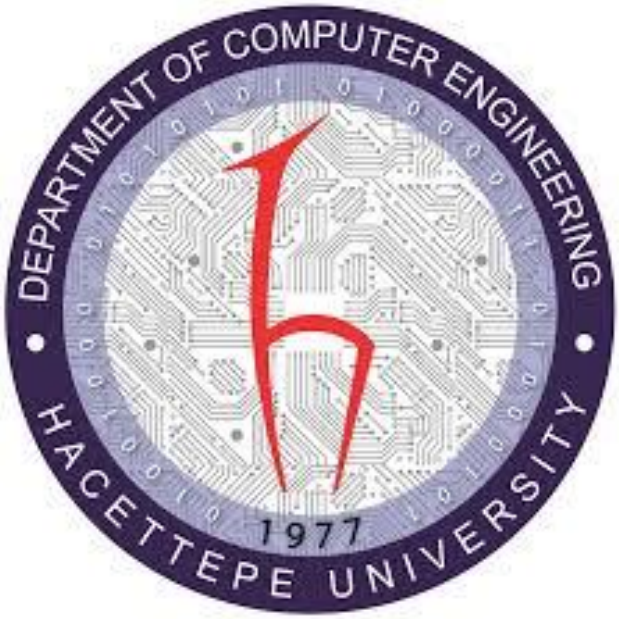
HACETTEPE UNIVERSITY

COMPUTER ENGINEERING DEPARTMENT

COMPUTER NETWORKS LABORATORY



EXPERIMENT

NAT (NETWORK ADDRESS TRANSLATION)

Deniz Ece AKTAŞ 21626901

Ece OMURTAY 21627543

Group No:12

AIM OF EXPERIMENT:

In this lab experiment, we learned how to configure NAT on Packet Tracer and translate the PC's we created IP addresses to create a single IP subnet.

DEFINITIONS AND EXPLANATIONS:

Static NAT: One to one mapping of private IP address to a public IP address .

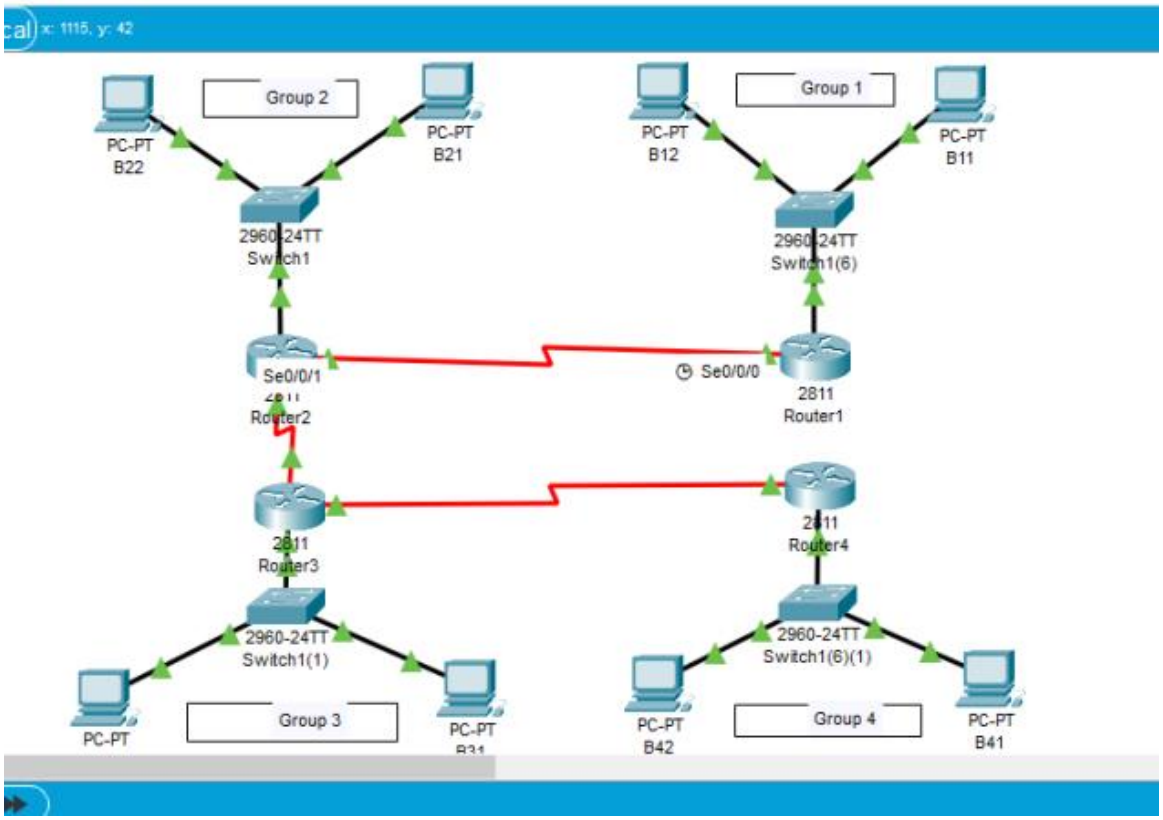
Dynamic NAT: One to one mapping of a private IP address to a public IP address that is from a NAT pool (group of NAT's).

Overloading: A mix of static and dynamic NAT's that takes the IP address that is connected to public and connects it to the private IP address.

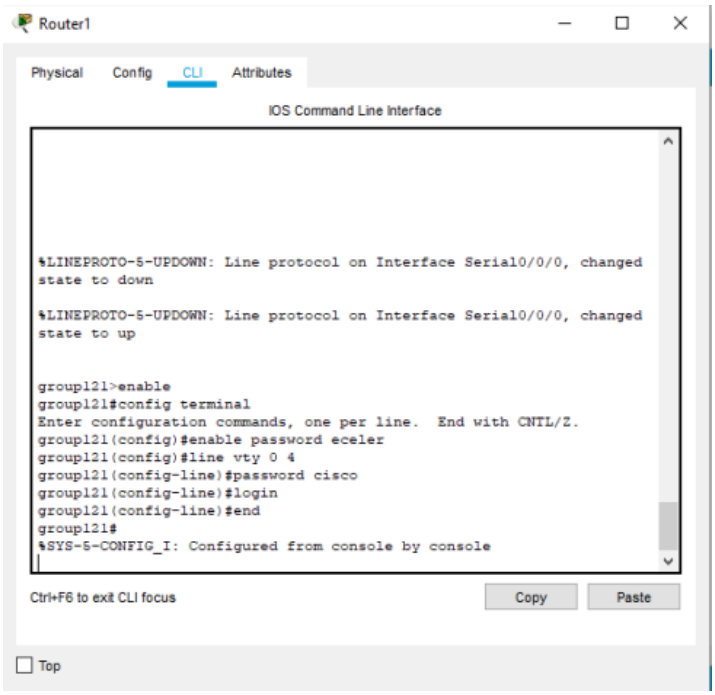
Telnet: Telnet is a protocol that lets a command line to provide communication between devices and servers.

Password: Password privileges us by authenticating us to a executive mode in the terminal.

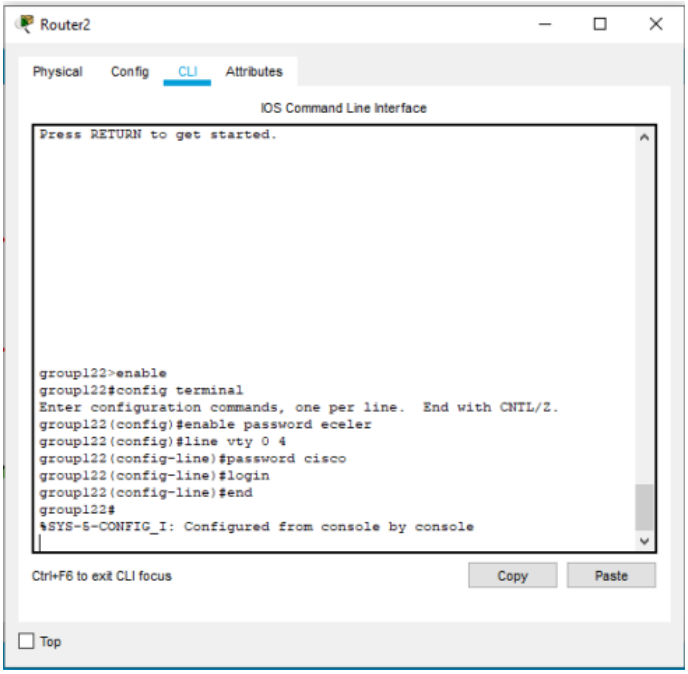
STEPS TAKEN:



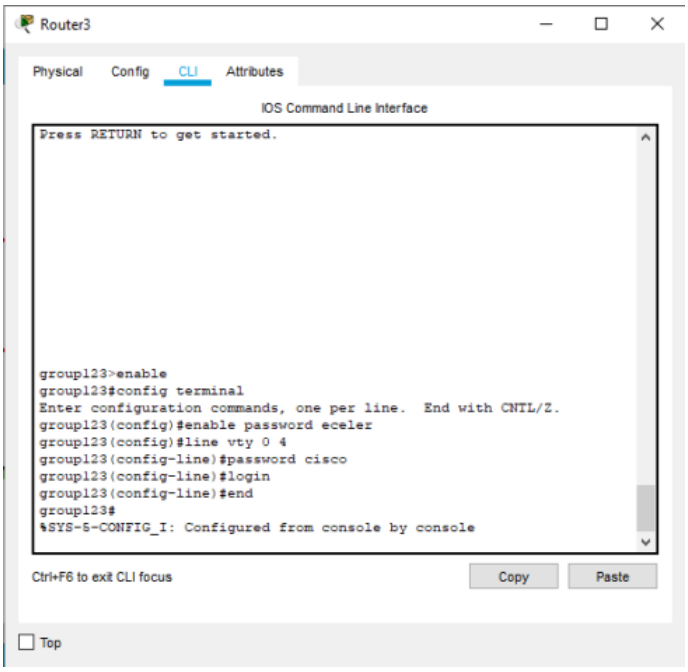
Topology



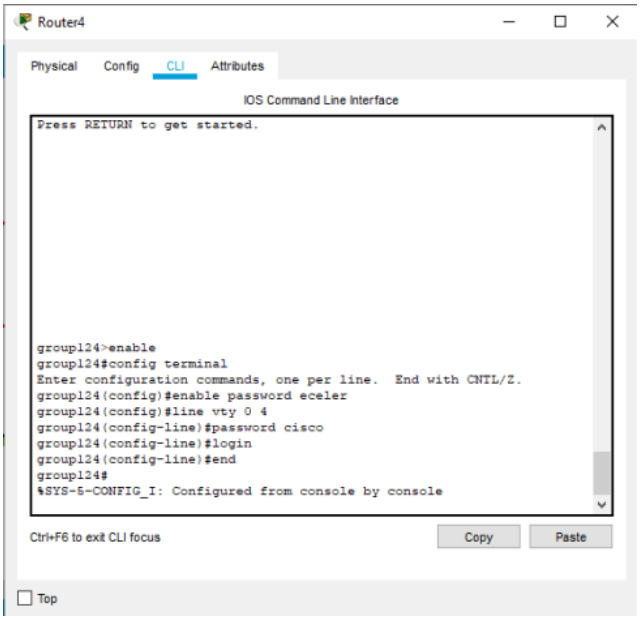
Router 1 enable and telnet password



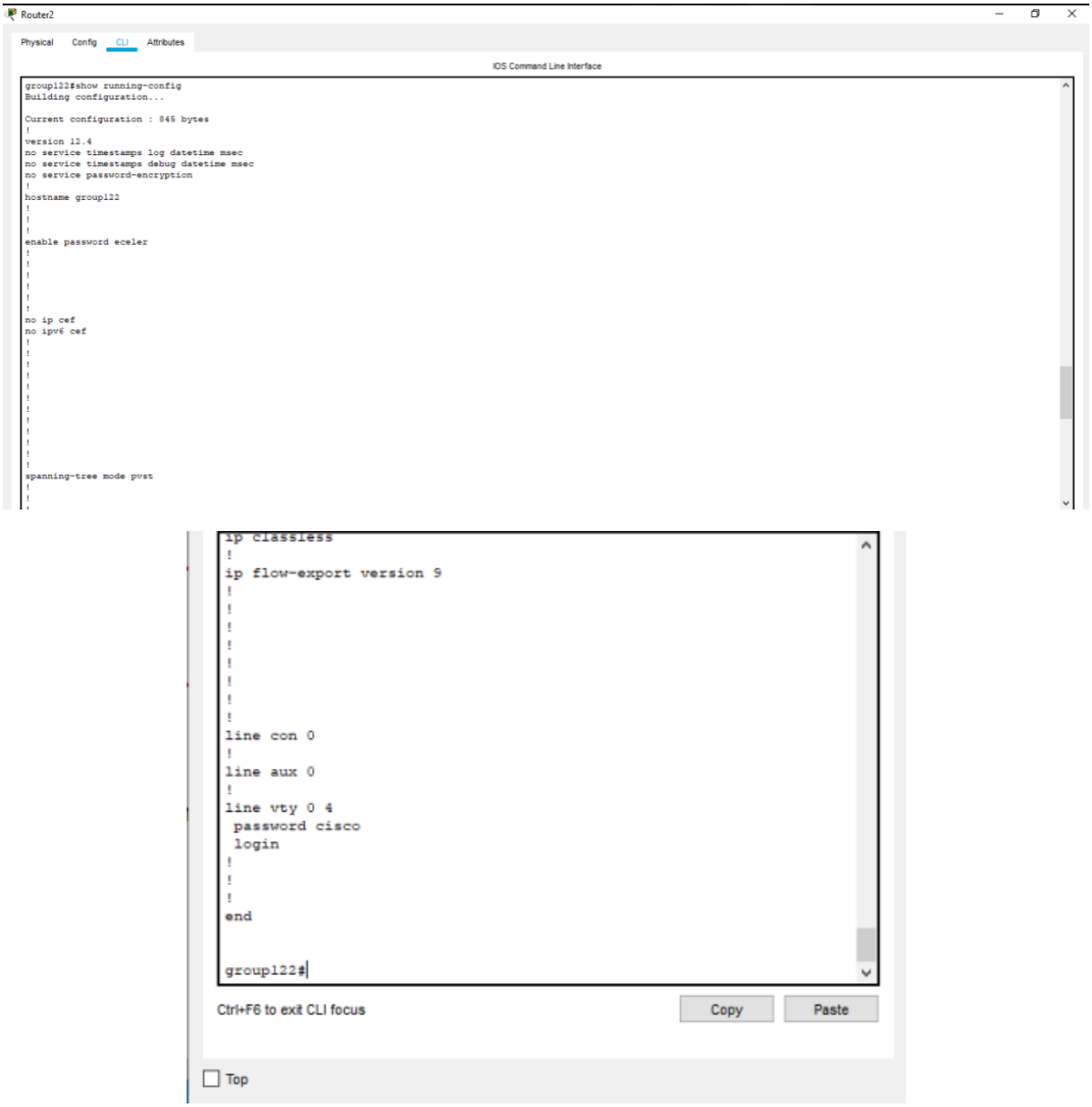
Router 2 enable and telnet password



Router 3 enable and telnet password

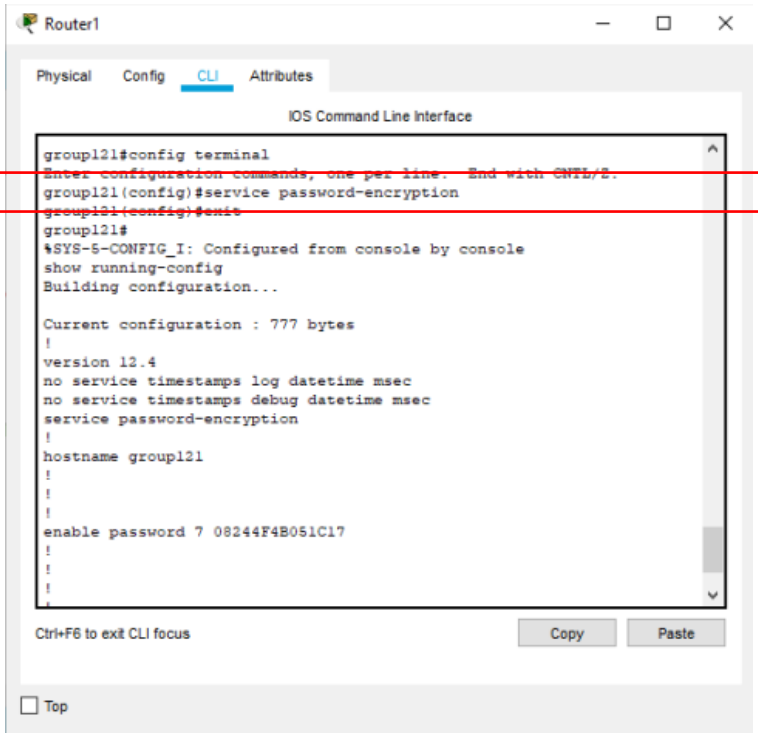


Router 4 enable and telnet password



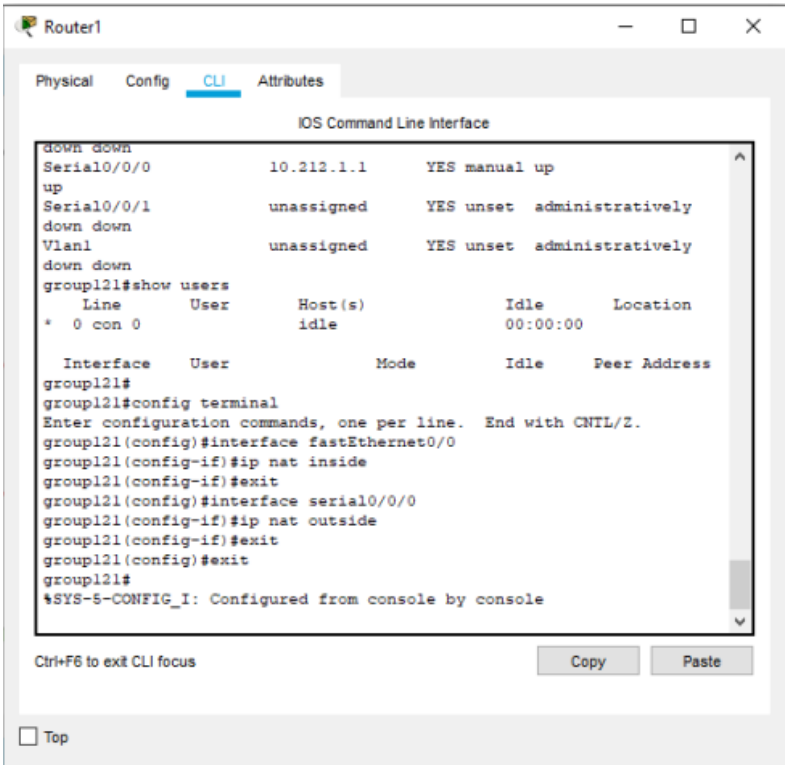
Router 2 show running config command

Disable and again commands

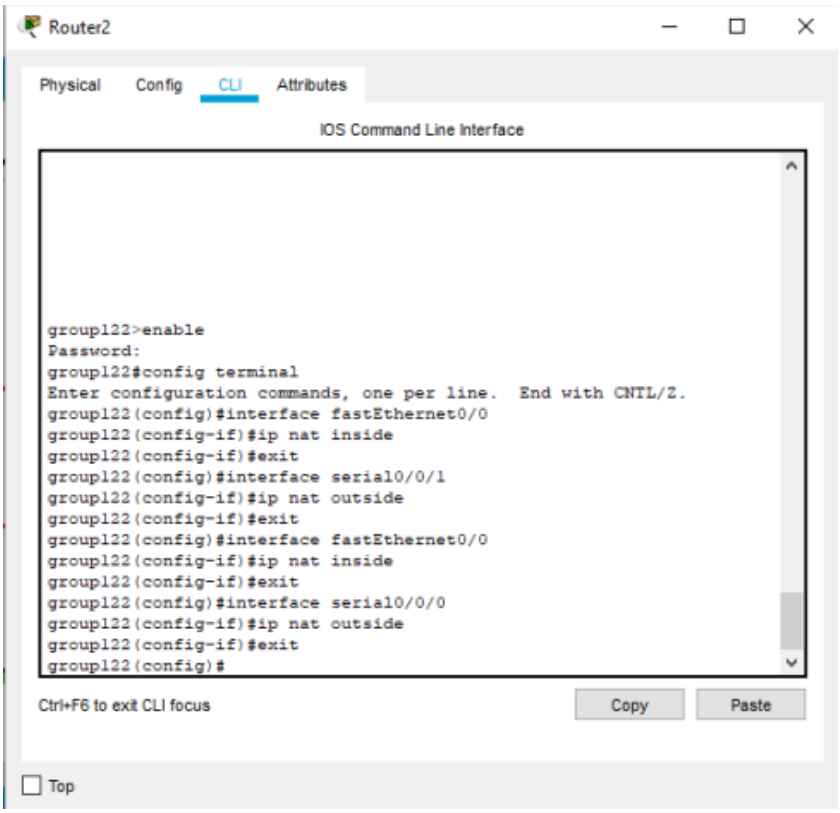


Router 1 service password-encryption command

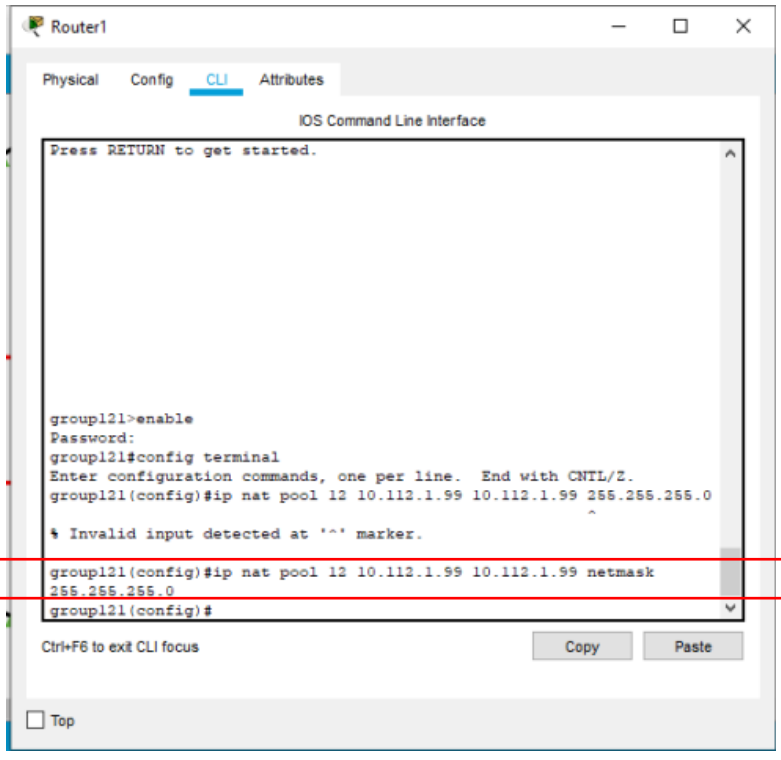
(all the others are same that's why we are only showing the Router 1)



Q7) Router 1 IP nat [inside/outside] command

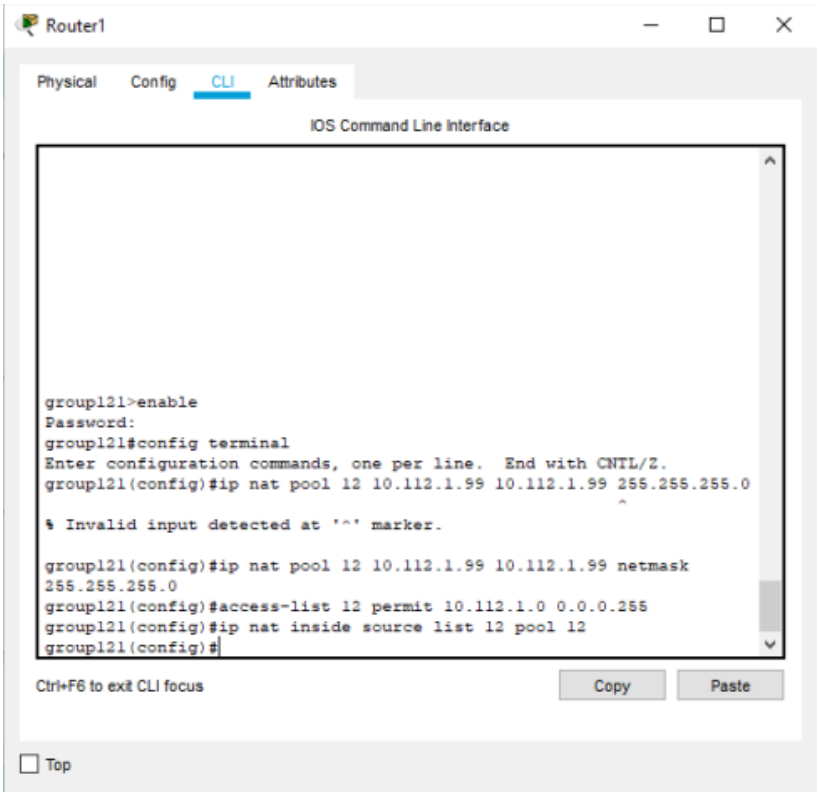


Q7) Router 2 IP nat [inside/outside] command

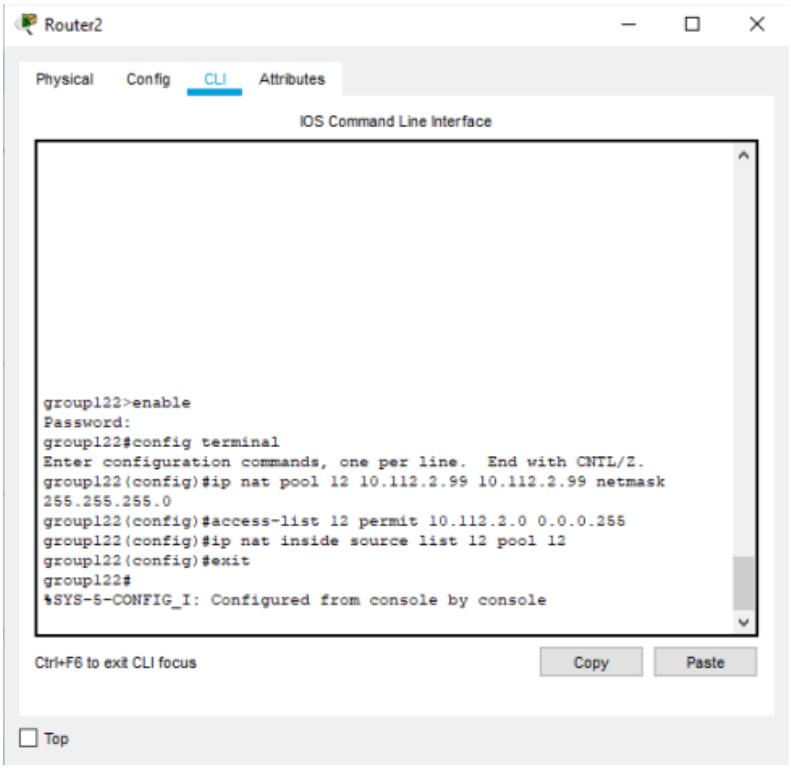


Router 1 Ip nat pool … command

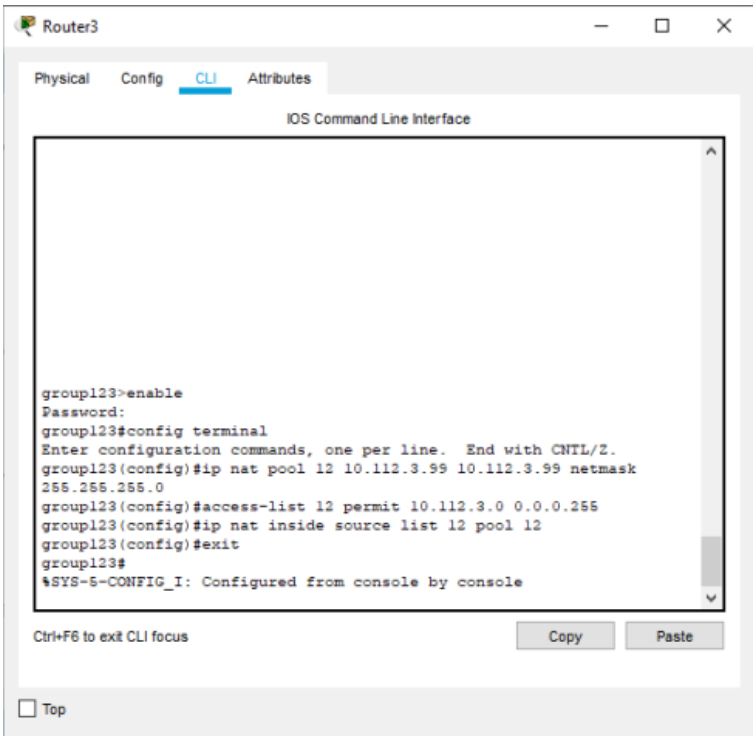
Beginning IP = 10.112.1.99, endingIP = 10.112.1.99, netmask = 255.255.255.0



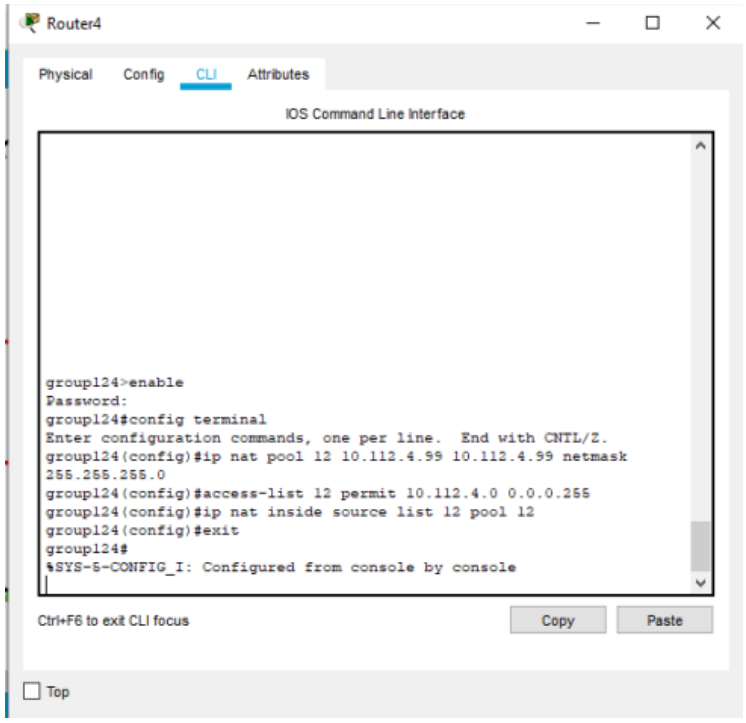
Access list and ip nat inside commands



Router 2 ip nat pool…, Access list and ip nat inside commands



Router 3 ip nat pool…, Access list and ip nat inside commands



Router 4 ip nat pool…, Access list and ip nat inside commands

Q8 answers are given as the below because the commands are the same as shown above. As the difference there is overloading.

```
group121#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
group121(config)#ip nat inside source list 12 pool 12 overload
group121(config)#
```

Router 1 overloading

```
group122#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
group122(config)#ip nat inside source list 12 pool 12 overload
group122(config)#exit
group122#
%SYS-5-CONFIG_I: Configured from console by console
```

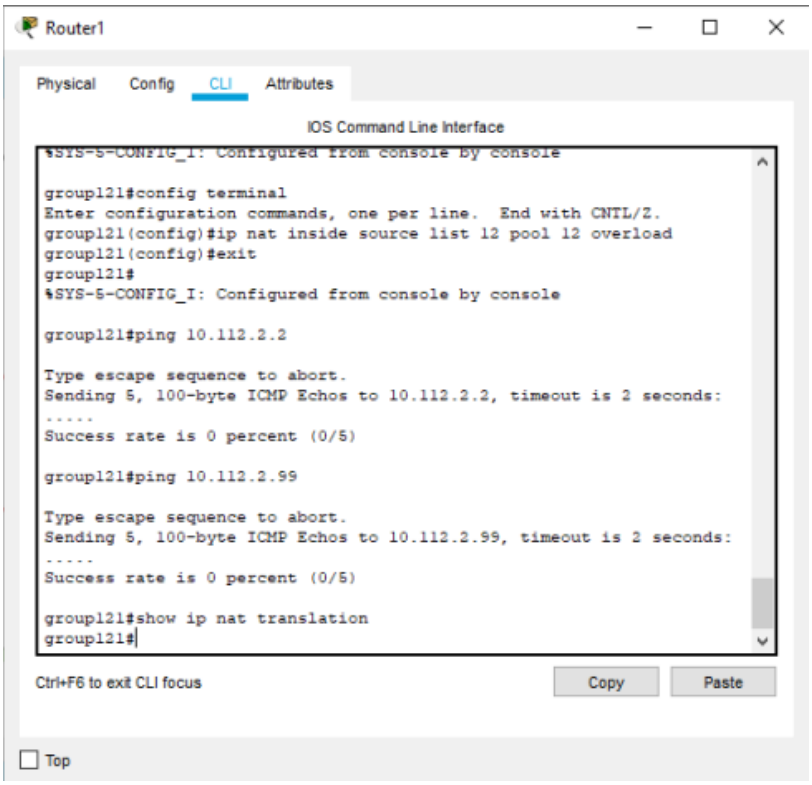
Router 2 overloading

```
group123#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
group123(config)#ip nat inside source list 12 pool 12 overload
group123(config)#exit
group123#
%SYS-5-CONFIG_I: Configured from console by console
```

Router 3 overloading

```
group124#config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
group124(config)#ip nat inside source list 12 pool 12 overload
group124(config)#exit
group124#
%SYS-5-CONFIG_I: Configured from console by console
```

Router 4 overloading



Success rate is 0 percent because we couldn't do the telnet correctly because we couldn't meet with other groups and tried to do this experiment as our group alone.