

GROUP NO.: 6

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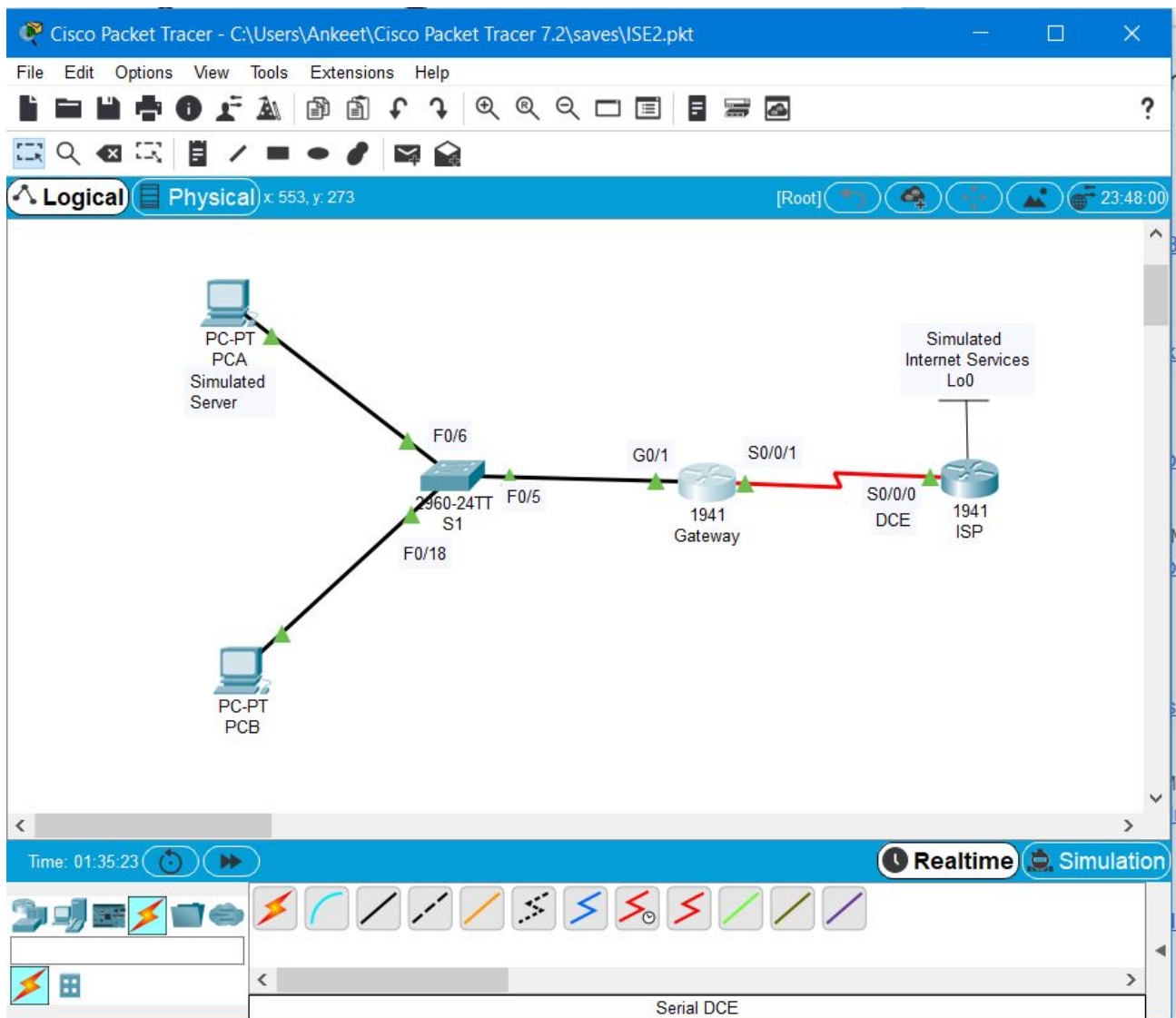
SOHAM VAIDYA 2018130058

TE COMPS

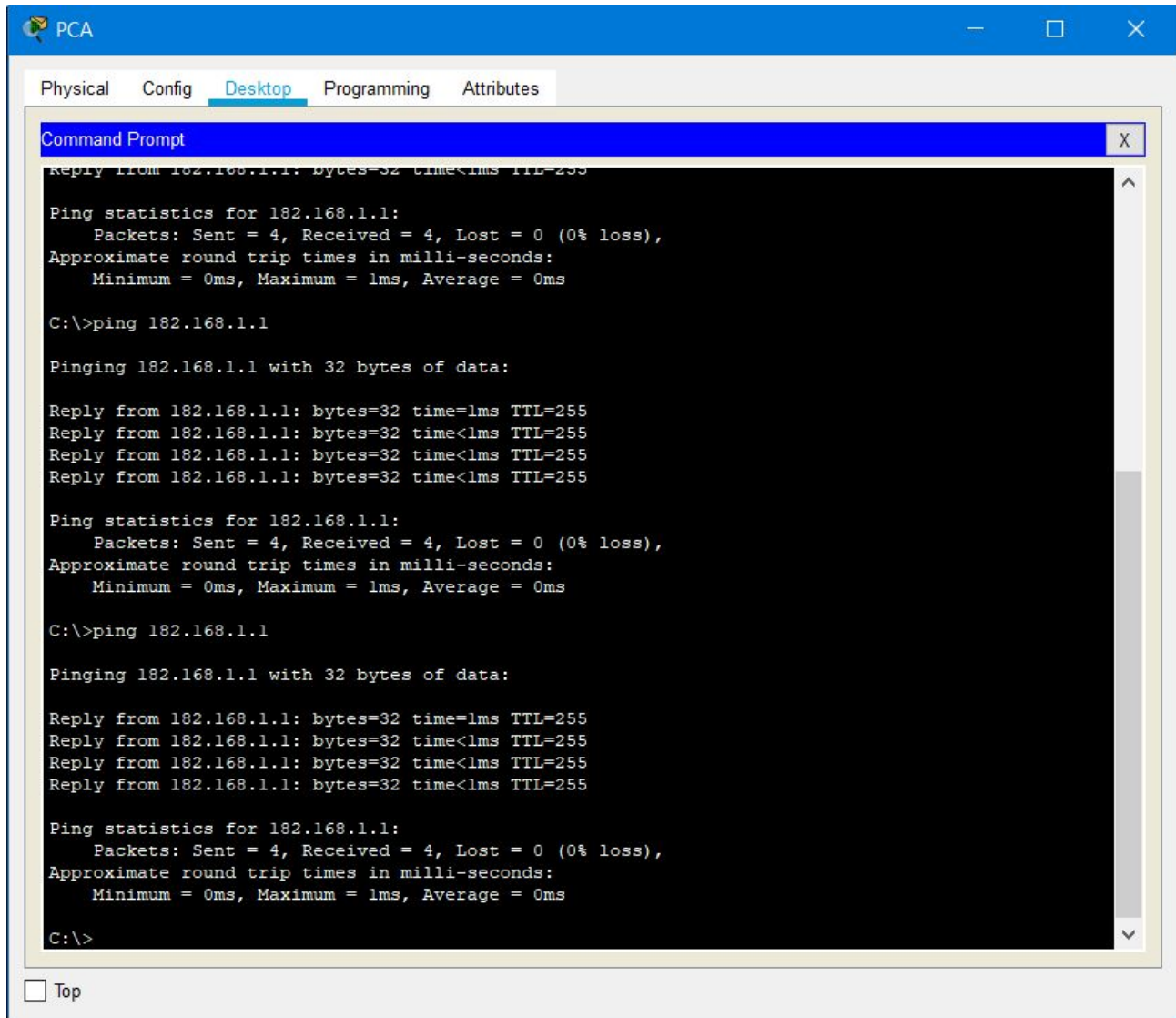
DCCN LAB ISE2

Task 1:

Final Network:



Pinging G0/1 interface on the gateway router from PCA:

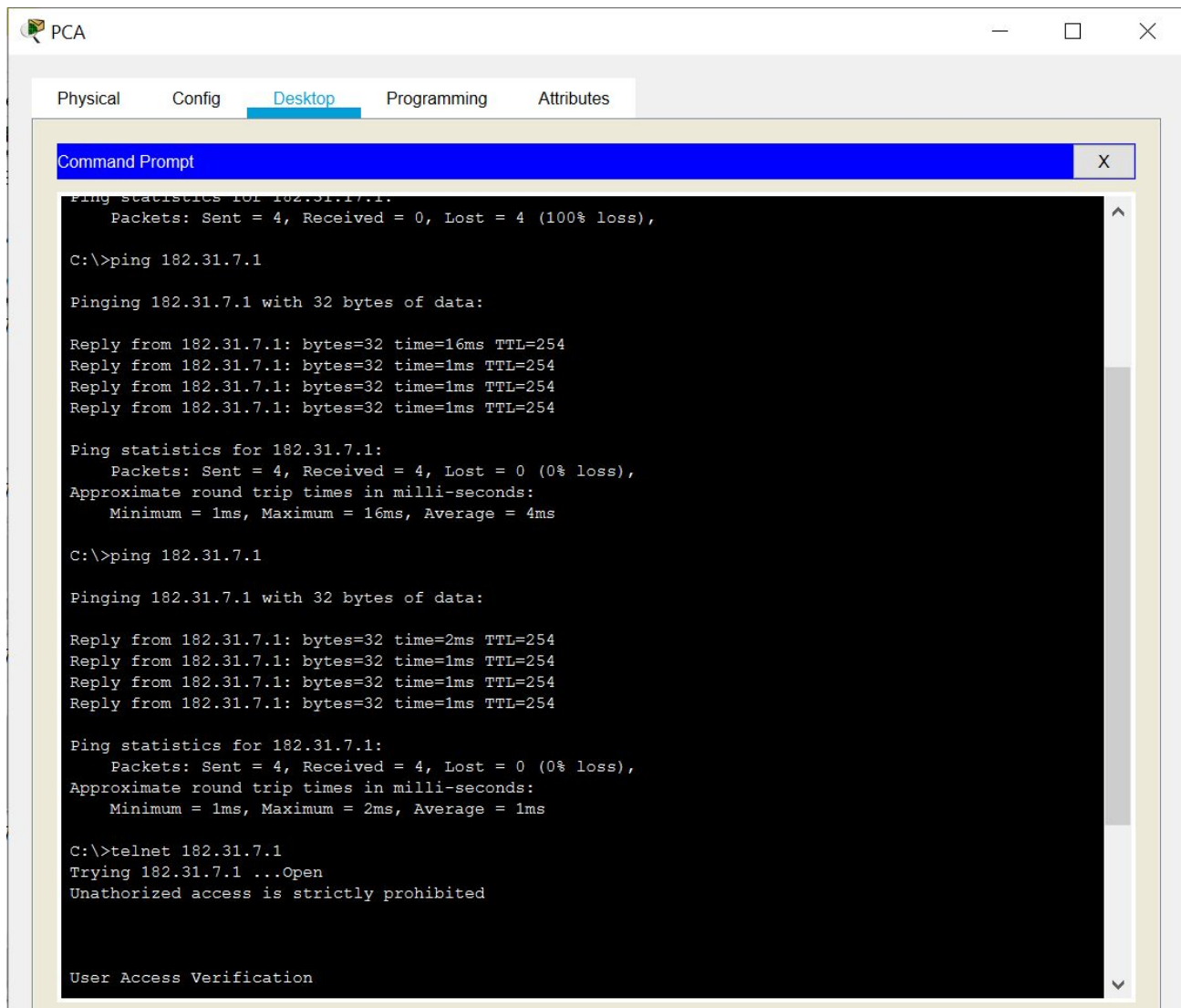


The screenshot shows a Windows desktop window titled "PCA" with a blue title bar. The window has four tabs: "Physical", "Config", "Desktop" (which is selected and highlighted in blue), and "Programming". Below the tabs is a "Command Prompt" window with a black background and white text. The Command Prompt shows the results of a ping command to 182.168.1.1. The output includes the first successful ping, followed by a "ping statistics" summary, and then a second set of four pings, each followed by a "ping statistics" summary. The statistics show 4 packets sent, 4 received, 0% loss, and round trip times of 0ms, 1ms, and 0ms respectively. At the bottom of the Command Prompt window, there is a "Top" button with a small square icon to its left.

```
PCA
Physical Config Desktop Programming Attributes
Command Prompt
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 182.168.1.1
Pinging 182.168.1.1 with 32 bytes of data:
Reply from 182.168.1.1: bytes=32 time=1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 182.168.1.1
Pinging 182.168.1.1 with 32 bytes of data:
Reply from 182.168.1.1: bytes=32 time=1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Reply from 182.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 182.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
Top
```

Task 2:

Pinging 182.31.7.1 from PC-A:



```
PCA
Physical Config Desktop Programming Attributes

Command Prompt
Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=16ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 16ms, Average = 4ms

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=2ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>telnet 182.31.7.1
Trying 182.31.7.1 ...Open
Unauthorized access is strictly prohibited

User Access Verification
```

The following shows the NAT translations' output:

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
% Invalid input detected at '^' marker.

Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#ip nat inside source static 182.168.1.20 208.165.200.225
Gateway(config)#interface gigabitEthernet 0/1
Gateway(config-if)#ip nat inside
Gateway(config-if)#exit
Gateway(config)#interface serial 0/0/1
Gateway(config-if)#ip nat outside
Gateway(config-if)#^Z
Gateway#
%SYS-5-CONFIG_I: Configured from console by console

Gateway#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Gateway#show ip nat translations
Pro  Inside global      Inside local      Outside local      Outside global
---  208.165.200.225      182.168.1.20      ---                ---

Gateway#exit

Gateway con0 is now available
```

Physical Config CLI Attributes

IOS Command Line Interface

Unauthorized access is strictly prohibited.

User Access Verification

Password:

Gateway>enable

Password:

Gateway#show ip nat translations

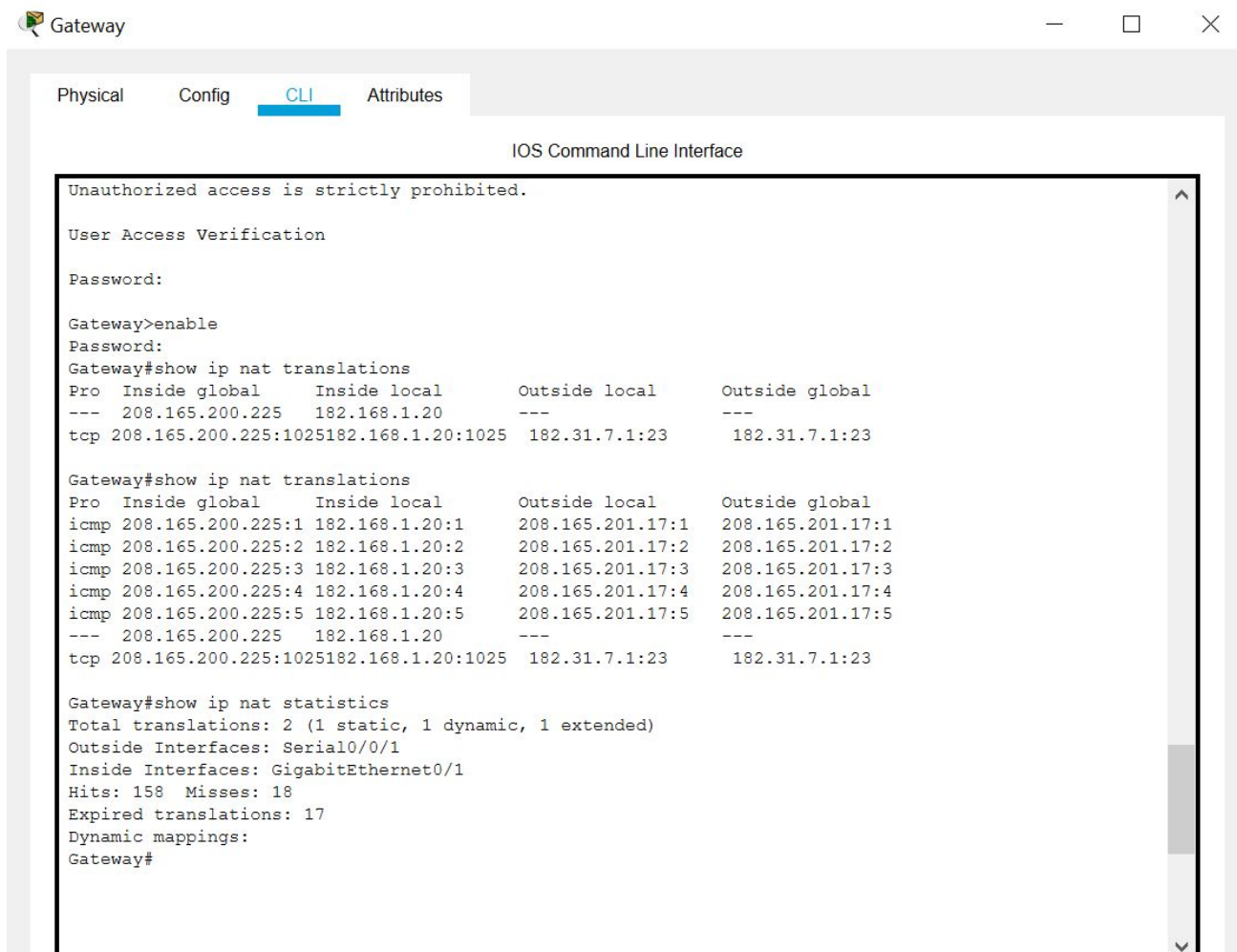
Pro	Inside global	Inside local	Outside local	Outside global
---	208.165.200.225	182.168.1.20	---	---

Gateway#show ip nat translations

Pro	Inside global	Inside local	Outside local	Outside global
icmp	208.165.200.225:10	182.168.1.20:10	182.31.7.1:10	182.31.7.1:10
icmp	208.165.200.225:11	182.168.1.20:11	182.31.7.1:11	182.31.7.1:11
icmp	208.165.200.225:12	182.168.1.20:12	182.31.7.1:12	182.31.7.1:12
icmp	208.165.200.225:9	182.168.1.20:9	182.31.7.1:9	182.31.7.1:9
---	208.165.200.225	182.168.1.20	---	---

Gateway#exit

Gateway con0 is now available



And shown below is the output of the ISP when we ping 208.165.200.225

Physical

Config

Desktop

Programming

Attributes

Command Prompt

X

```
Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 16ms, Average = 4ms

C:\>ping 182.31.7.1

Pinging 182.31.7.1 with 32 bytes of data:

Reply from 182.31.7.1: bytes=32 time=2ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254
Reply from 182.31.7.1: bytes=32 time=1ms TTL=254

Ping statistics for 182.31.7.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>telnet 182.31.7.1
Trying 182.31.7.1 ...Open
Unathorized access is strictly prohibited

User Access Verification

Password:
ISP>enable
Password:
ISP#ping 208.165.200.225

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/10 ms

ISP#
```


IOS Command Line Interface

```
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up

Unauthorized access is strictly prohibited

User Access Verification

Password:

ISP>enable
Password:
ISP#ping 208.165.200.225

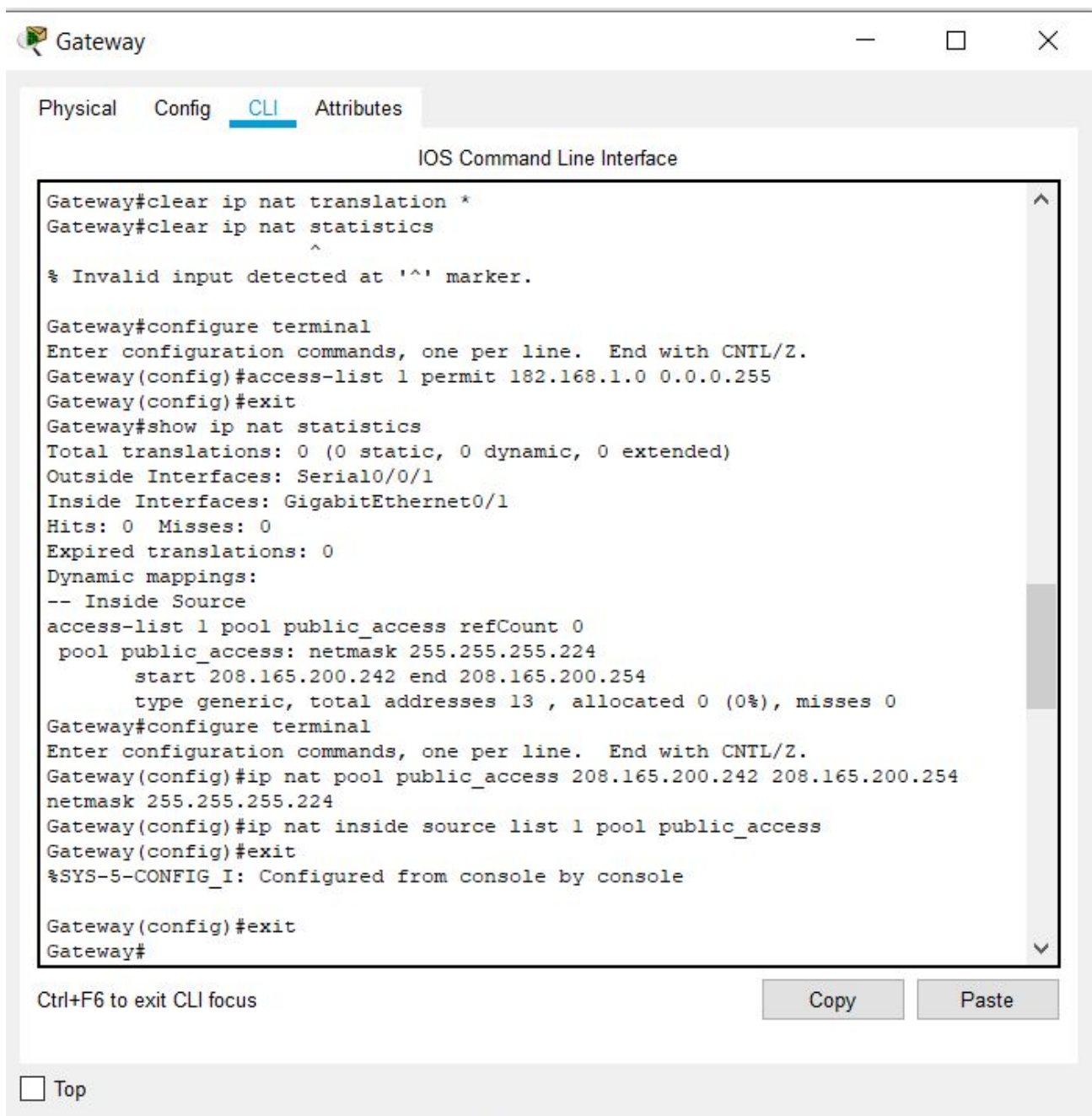
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/7/12 ms

ISP#ping 208.165.200.225

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 208.165.200.225, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/8 ms

ISP#
```


TASK 3:



The screenshot shows a web-based interface for a 'Gateway' device. The 'CLI' tab is selected, displaying the 'IOS Command Line Interface'. The terminal output shows the following sequence of commands and responses:


```
Gateway#clear ip nat translation *
Gateway#clear ip nat statistics
^
% Invalid input detected at '^' marker.

Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#access-list 1 permit 182.168.1.0 0.0.0.255
Gateway(config)#exit
Gateway#show ip nat statistics
Total translations: 0 (0 static, 0 dynamic, 0 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 0 Misses: 0
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 0
  pool public_access: netmask 255.255.255.224
    start 208.165.200.242 end 208.165.200.254
    type generic, total addresses 13 , allocated 0 (0%), misses 0
Gateway#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Gateway(config)#ip nat pool public_access 208.165.200.242 208.165.200.254
netmask 255.255.255.224
Gateway(config)#ip nat inside source list 1 pool public_access
Gateway(config)#exit
%SYS-5-CONFIG_I: Configured from console by console

Gateway(config)#exit
Gateway#
```

Below the terminal window, there is a text prompt 'Ctrl+F6 to exit CLI focus' and two buttons: 'Copy' and 'Paste'. At the bottom left, there is a 'Top' link.

- 1)clear ip nat translation *
clear ip nat statistics
- 2)access-list 1 permit 182.168.1.0 0.0.0.255
- 3)show ip nat statistics
- 4)ip nat pool public_access 208.165.200.242 208.165.200.254 netmask 255.255.255.224
- 5)ip nat inside source list 1 pool public_access

 Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
netmask 255.255.255.224
Gateway(config)#ip nat inside source list 1 pool public_access
Gateway(config)#exit
%SYS-5-CONFIG_I: Configured from console by console

Gateway(config)#exit
Gateway#
%SYS-5-CONFIG_I: Configured from console by console

Gateway#show ip nat translations
Pro Inside global      Inside local      Outside local      Outside global
icmp 208.165.200.242:1 182.168.1.21:1    182.31.7.1:1       182.31.7.1:1
icmp 208.165.200.242:2 182.168.1.21:2    182.31.7.1:2       182.31.7.1:2
icmp 208.165.200.242:3 182.168.1.21:3    182.31.7.1:3       182.31.7.1:3
icmp 208.165.200.242:4 182.168.1.21:4    182.31.7.1:4       182.31.7.1:4

Gateway#show ip nat statistics
Total translations: 4 (0 static, 4 dynamic, 4 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 4 Misses: 4
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 4
  pool public_access: netmask 255.255.255.224
    start 208.165.200.242 end 208.165.200.254
    type generic, total addresses 13 , allocated 1 (7%), misses 0
Gateway#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Gateway(config)#no ip nat inside source static 182.168.1.20 208.165.200.225
```

Ctrl+F6 to exit CLI focus

CopyPaste

☐ Top

6)show ip nat translations

7)show ip nat statistics

8)no ip nat inside source static 182.168.1.20 208.165.200.225

Gateway

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
%Translation not found
Gateway(config)#
Gateway(config)#exit
Gateway#clear ip nat translation *
%SYS-5-CONFIG_I: Configured from console by console

Gateway#clear ip nat translation *
Gateway#show ip nat statistics
Total translations: 8 (0 static, 8 dynamic, 8 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 12 Misses: 12
Expired translations: 0
Dynamic mappings:
-- Inside Source
access-list 1 pool public_access refCount 8
 pool public_access: netmask 255.255.255.224
   start 208.165.200.242 end 208.165.200.254
   type generic, total addresses 13 , allocated 2 (15%), misses 0
Gateway#show ip nat translations
Pro  Inside global      Inside local          Outside local          Outside global
icmp 208.165.200.242:1 182.168.1.20:1        182.31.7.1:1          182.31.7.1:1
icmp 208.165.200.242:2 182.168.1.20:2        182.31.7.1:2          182.31.7.1:2
icmp 208.165.200.242:3 182.168.1.20:3        182.31.7.1:3          182.31.7.1:3
icmp 208.165.200.242:4 182.168.1.20:4        182.31.7.1:4          182.31.7.1:4
icmp 208.165.200.243:5 182.168.1.21:5        182.31.7.1:5          182.31.7.1:5
icmp 208.165.200.243:6 182.168.1.21:6        182.31.7.1:6          182.31.7.1:6
icmp 208.165.200.243:7 182.168.1.21:7        182.31.7.1:7          182.31.7.1:7
icmp 208.165.200.243:8 182.168.1.21:8        182.31.7.1:8          182.31.7.1:8

Gateway#
```

Ctrl+F6 to exit CLI focus

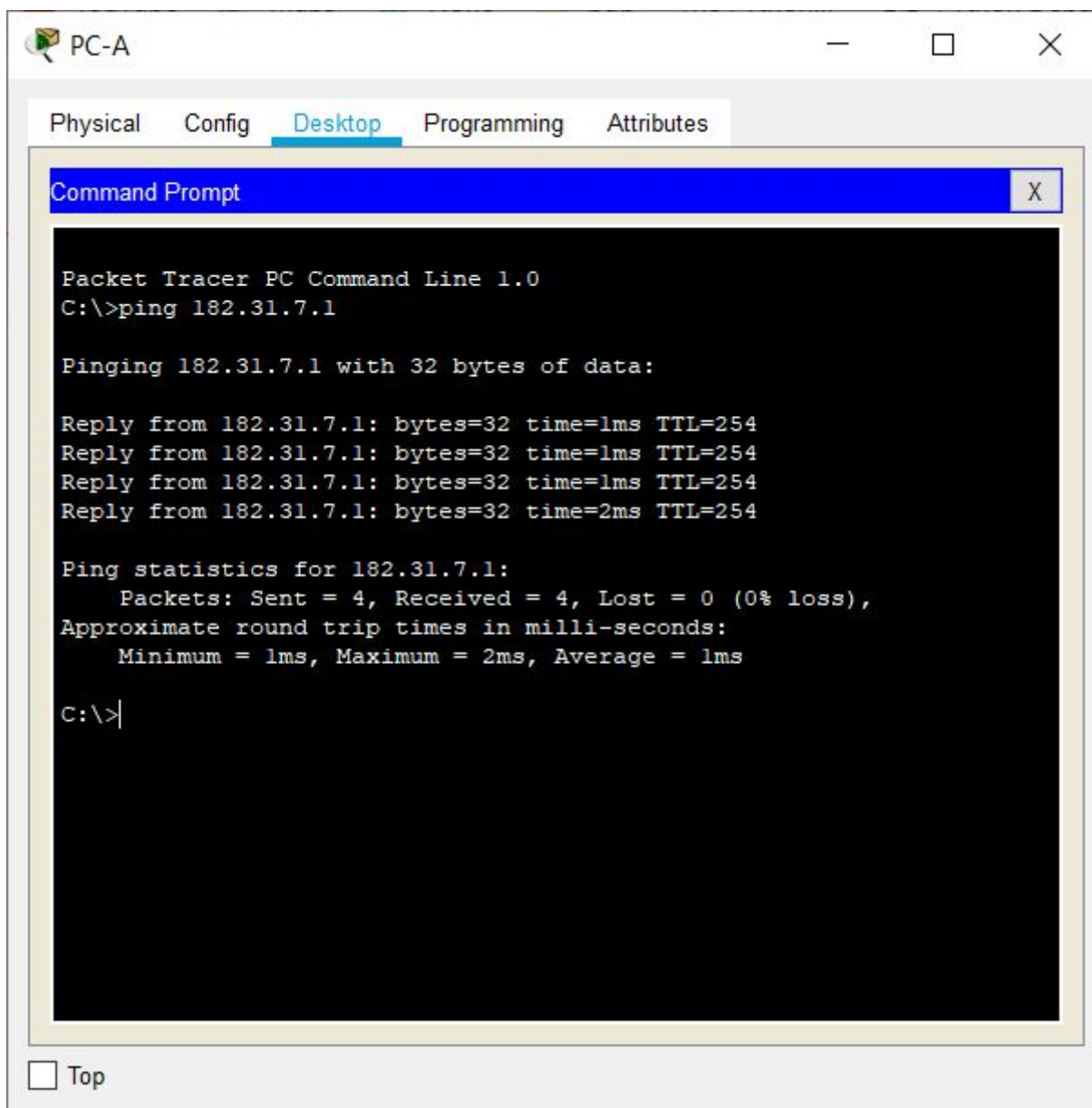
CopyPaste

☐ Top

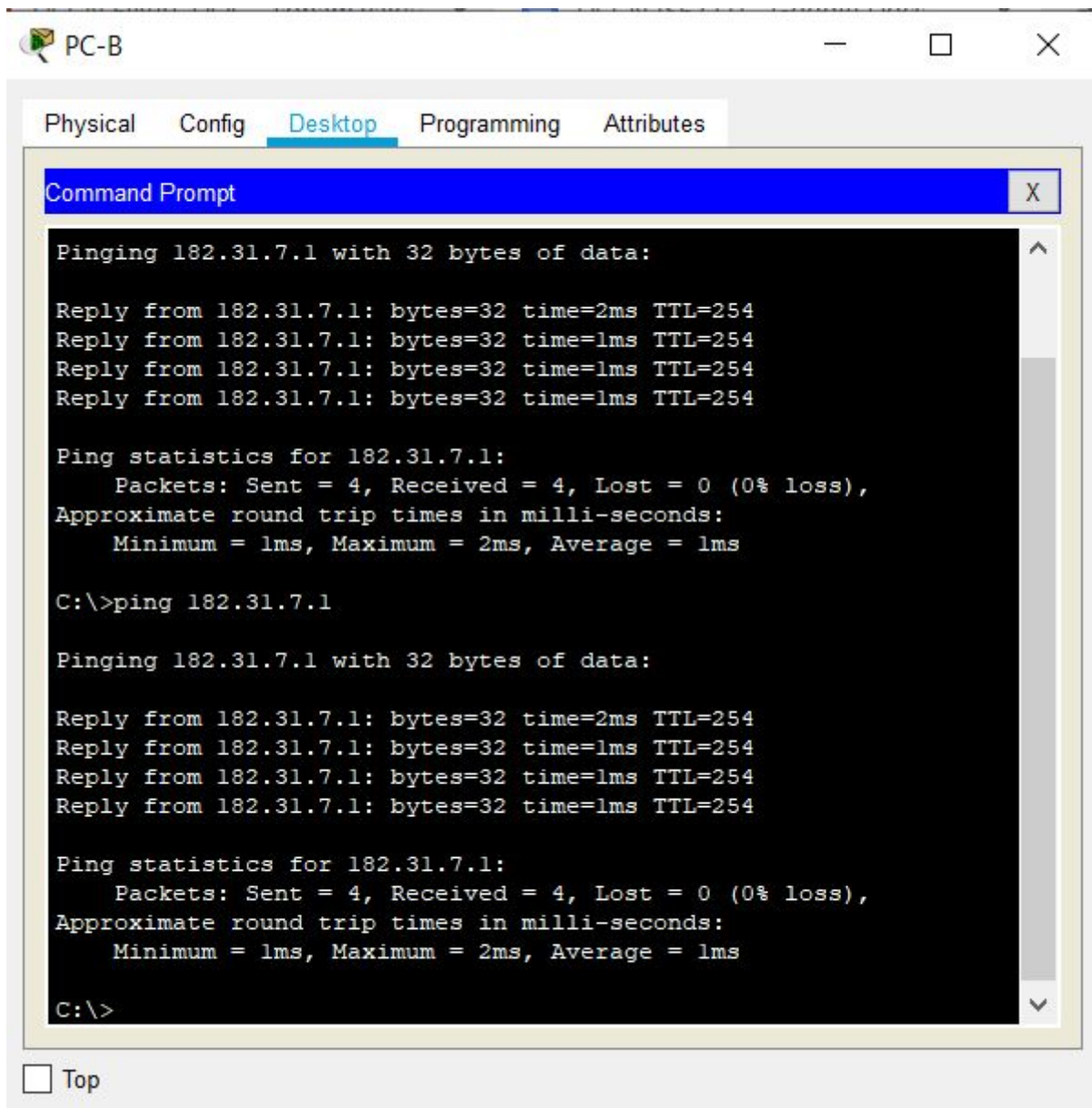
9)clear ip nat translation *

10)show ip nat statistics

11)show ip nat translations



ping 182.31.7.1 from PC-A



ping 182.31.7.1 from PC-B