GROUP NO.: 6
ANKEET THONGIRE 2018130056
PRADNYA TOPALE   2018130057
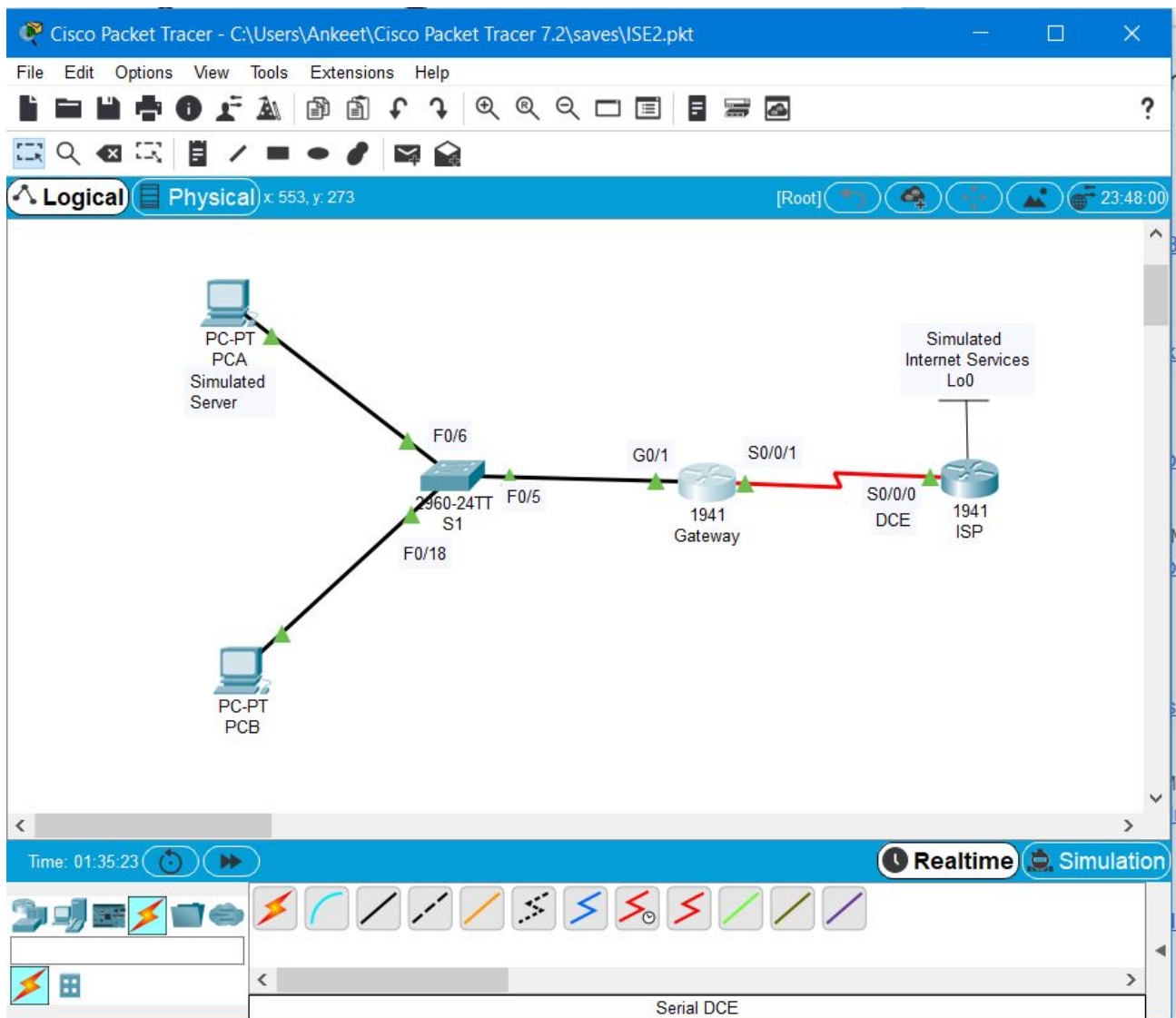SOHAM VAIDYA   2018130058
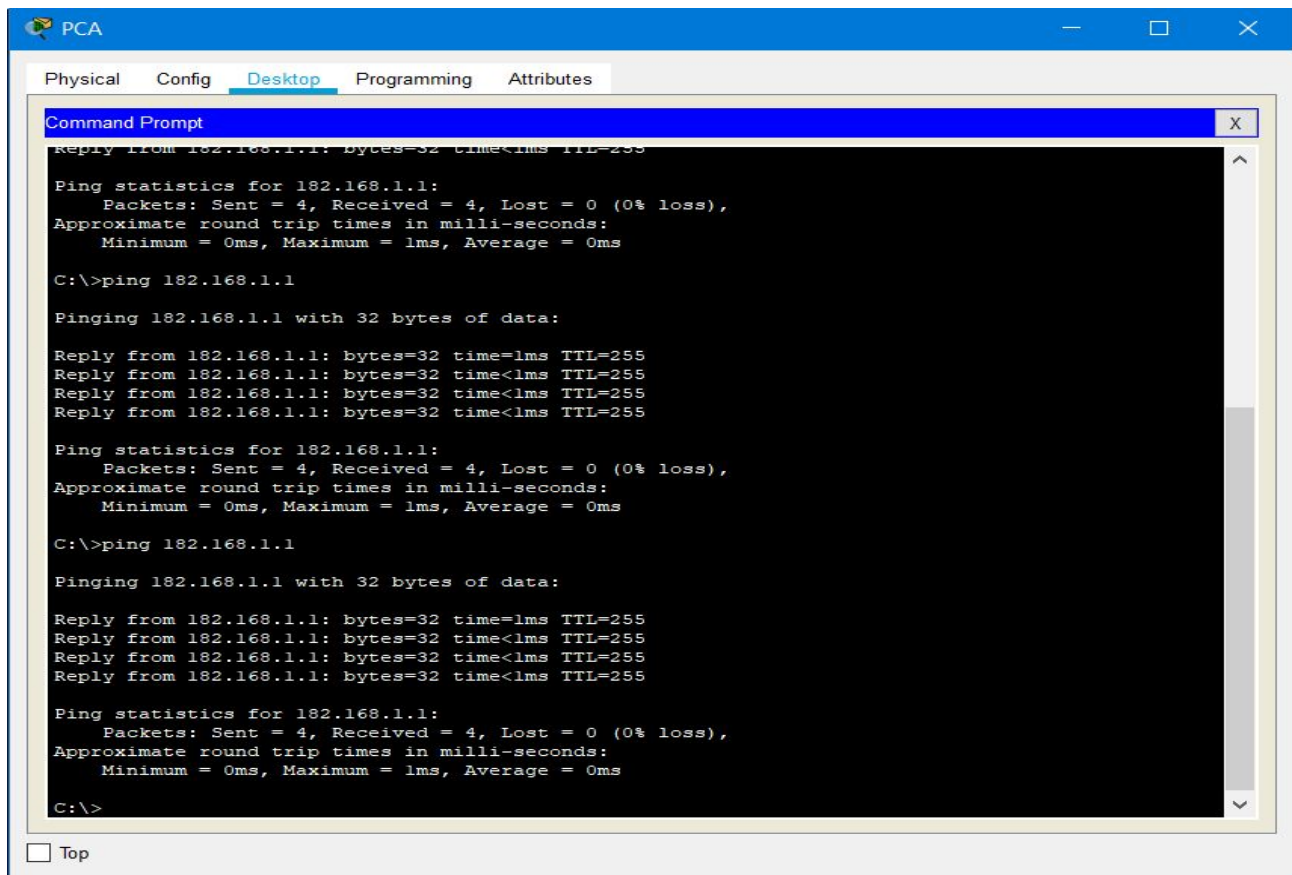TE COMPS

DCCN LAB ISE2

Task 1:

Final Network:

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

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

```
PCB                                                                      —    □    X

Physical    Config    Desktop    Programming    Attributes

Command Prompt                                                                   X

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
```
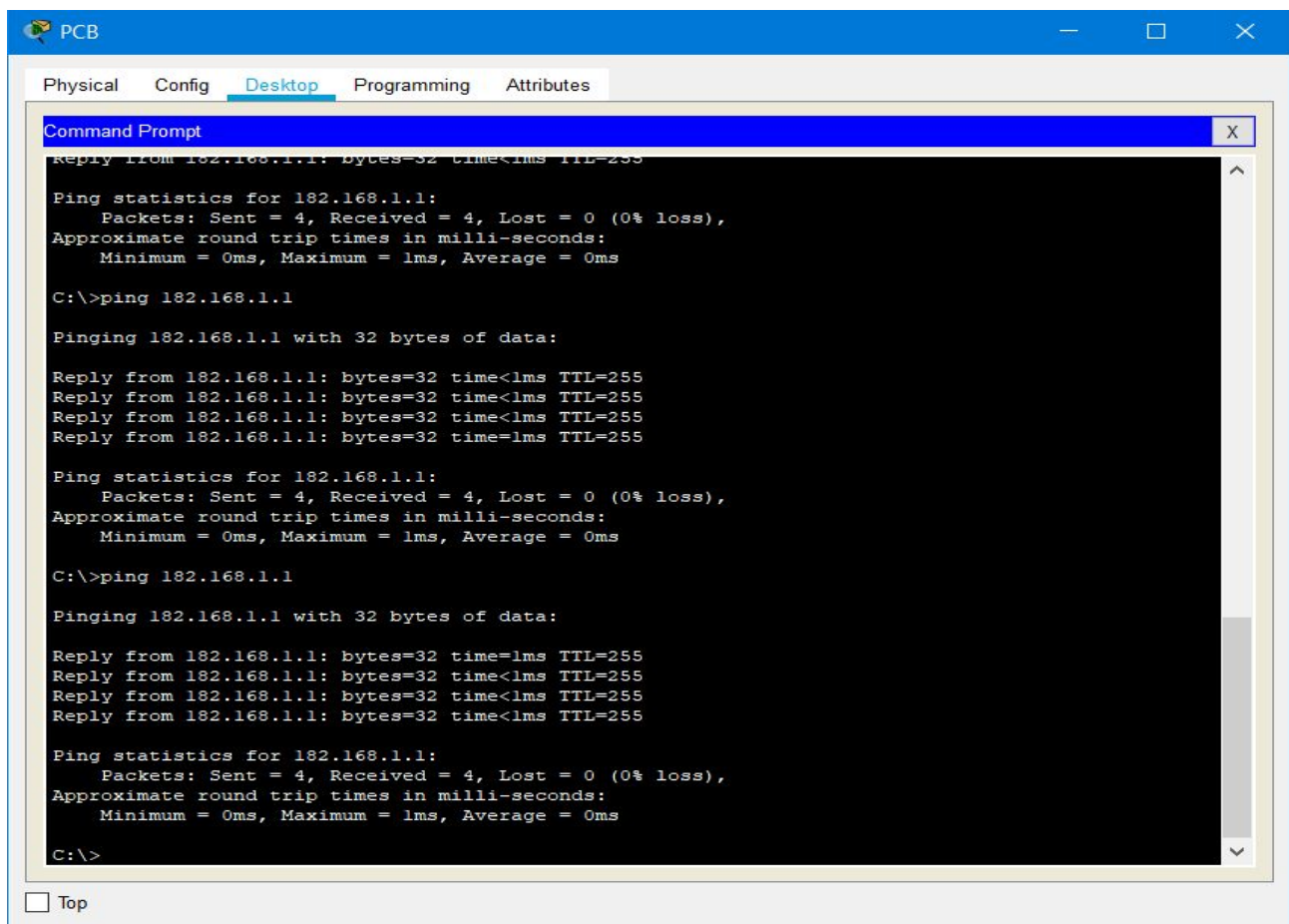
Task 2:

Pinging 182.31.7.1 from PC-A:

The following shows the NAT translations' output:


```
Gateway                                                    —   □   ×

  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
```

Gateway   — ☐ ✕

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 208.165.200.225:10182.168.1.20:10   182.31.7.1:10    182.31.7.1:10
icmp 208.165.200.225:11182.168.1.20:11   182.31.7.1:11    182.31.7.1:11
icmp 208.165.200.225:12182.168.1.20:12   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
```

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      ---               ---
tcp 208.165.200.225:1025182.168.1.20:1025  182.31.7.1:23     182.31.7.1:23

Gateway#show ip nat translations
Pro  Inside global    Inside local      Outside local     Outside global
icmp 208.165.200.225:1 182.168.1.20:1    208.165.201.17:1  208.165.201.17:1
icmp 208.165.200.225:2 182.168.1.20:2    208.165.201.17:2  208.165.201.17:2
icmp 208.165.200.225:3 182.168.1.20:3    208.165.201.17:3  208.165.201.17:3
icmp 208.165.200.225:4 182.168.1.20:4    208.165.201.17:4  208.165.201.17:4
icmp 208.165.200.225:5 182.168.1.20:5    208.165.201.17:5  208.165.201.17:5
---  208.165.200.225   182.168.1.20      ---               ---
tcp 208.165.200.225:1025182.168.1.20:1025  182.31.7.1:23     182.31.7.1:23

Gateway#show ip nat statistics
Total translations: 2 (1 static, 1 dynamic, 1 extended)
Outside Interfaces: Serial0/0/1
Inside Interfaces: GigabitEthernet0/1
Hits: 158  Misses: 18
Expired translations: 17
Dynamic mappings:
Gateway#
```
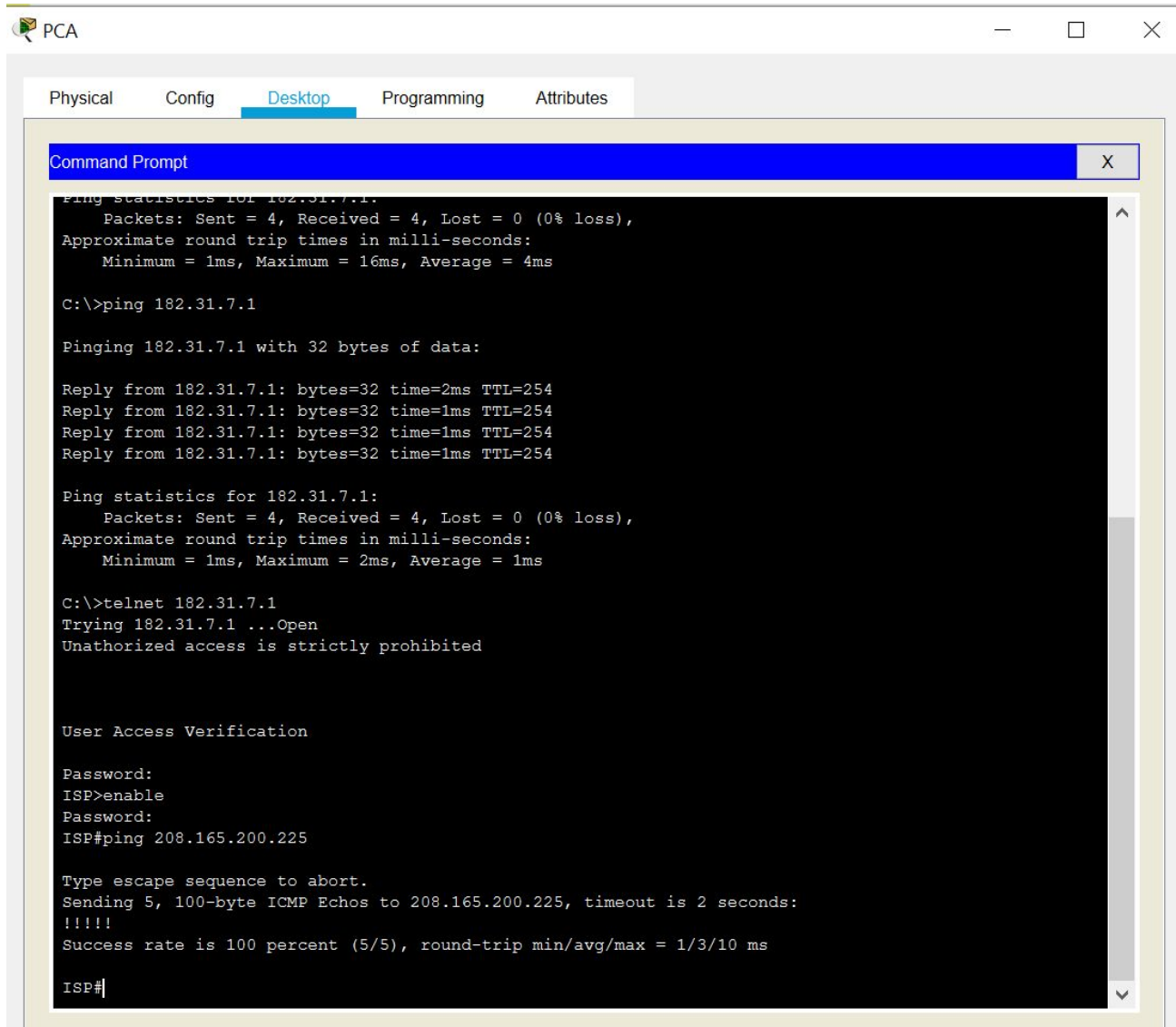
And shown below is the output of the ISP when we ping 208.165.200.225


```
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#
```

Physical   Config   CLI   Attributes

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


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 = 1/7/12 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#
```
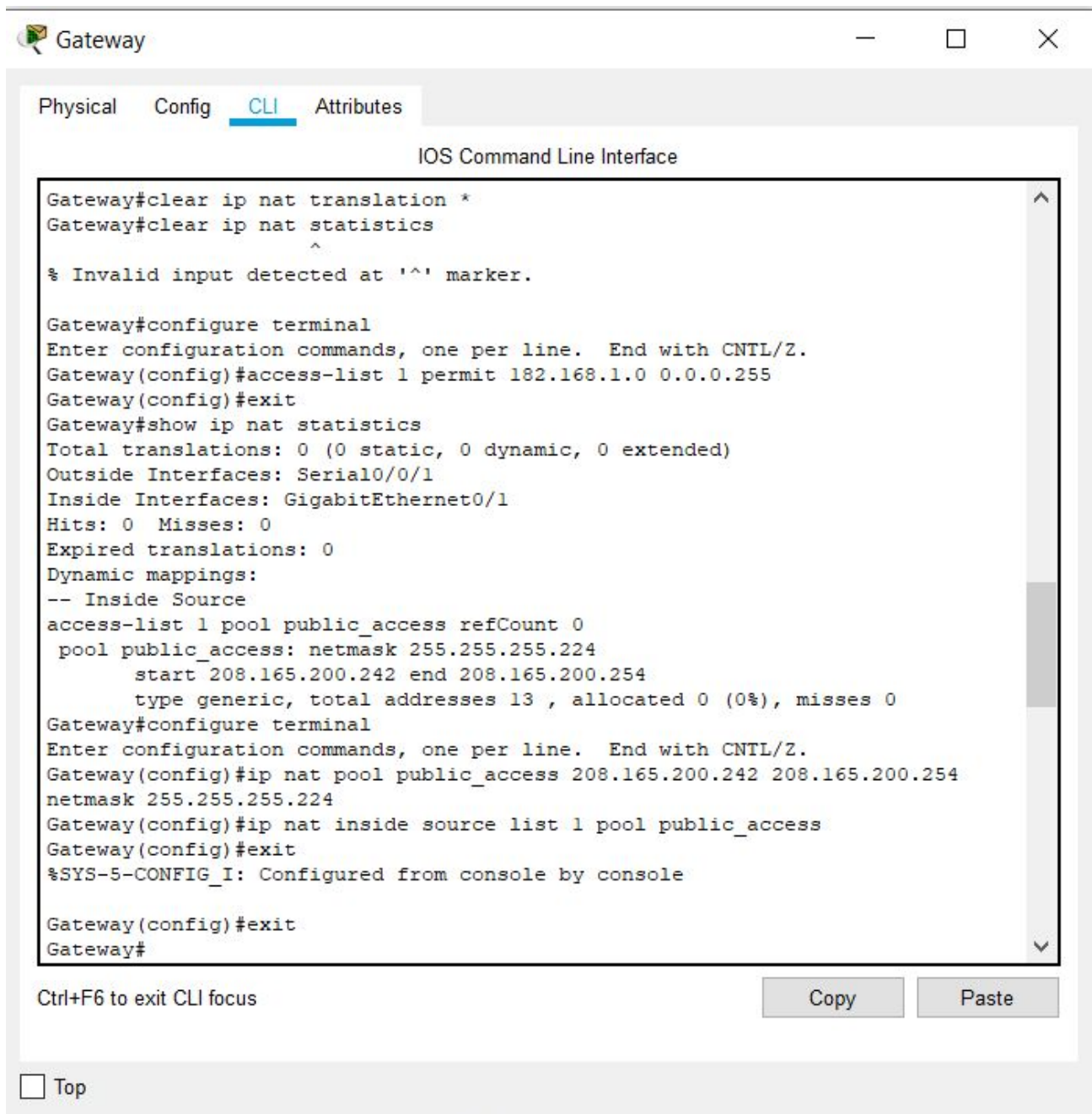
TASK 3:

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

```
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#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

☐ 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   —   □   ✕

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   Copy   Paste

☐ Top

9)clear ip nat translation *
10)show ip nat statistics
11)show ip nat translations

Gateway — □ ×

Physical   Config   CLI   Attributes

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#
```
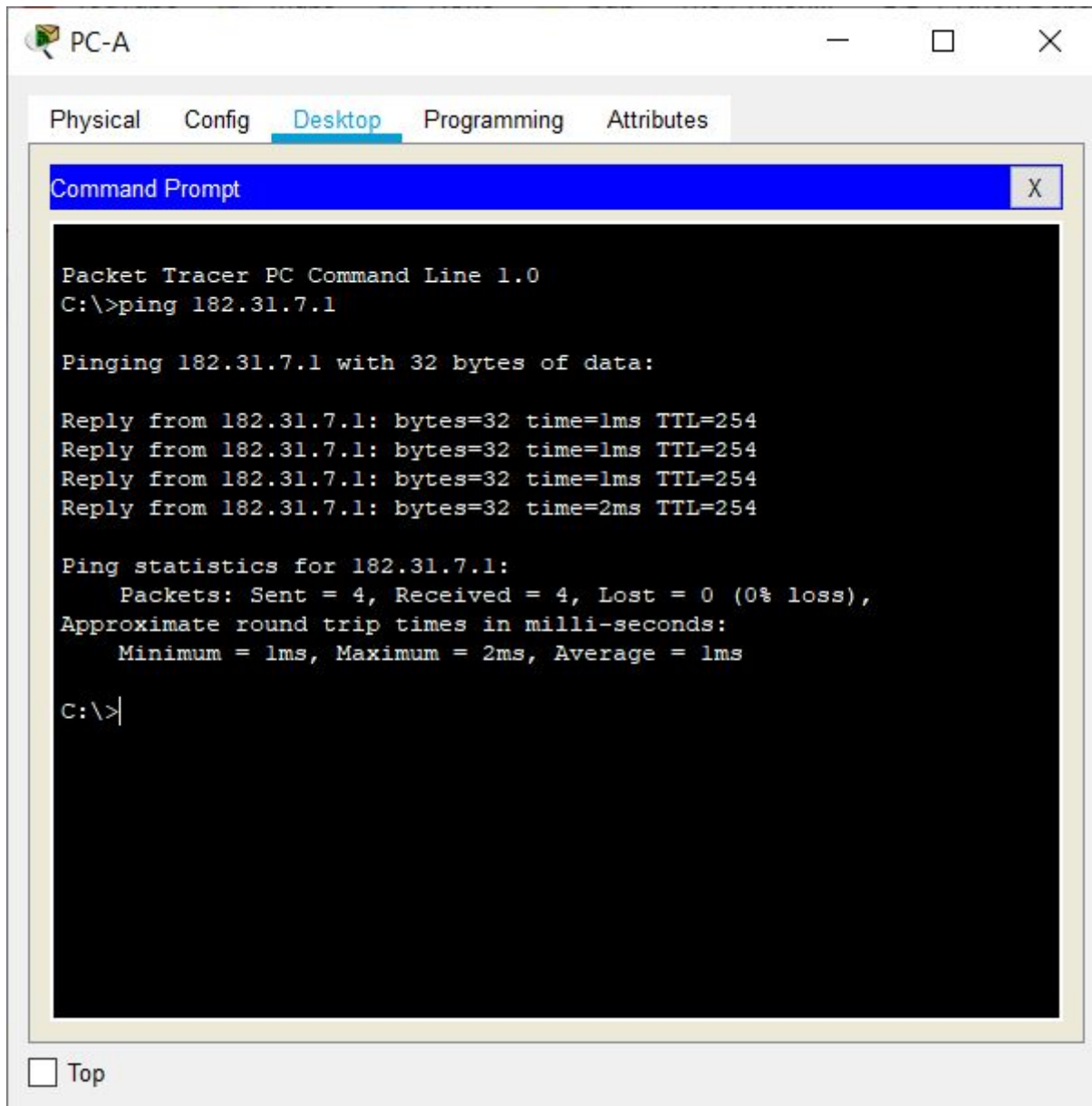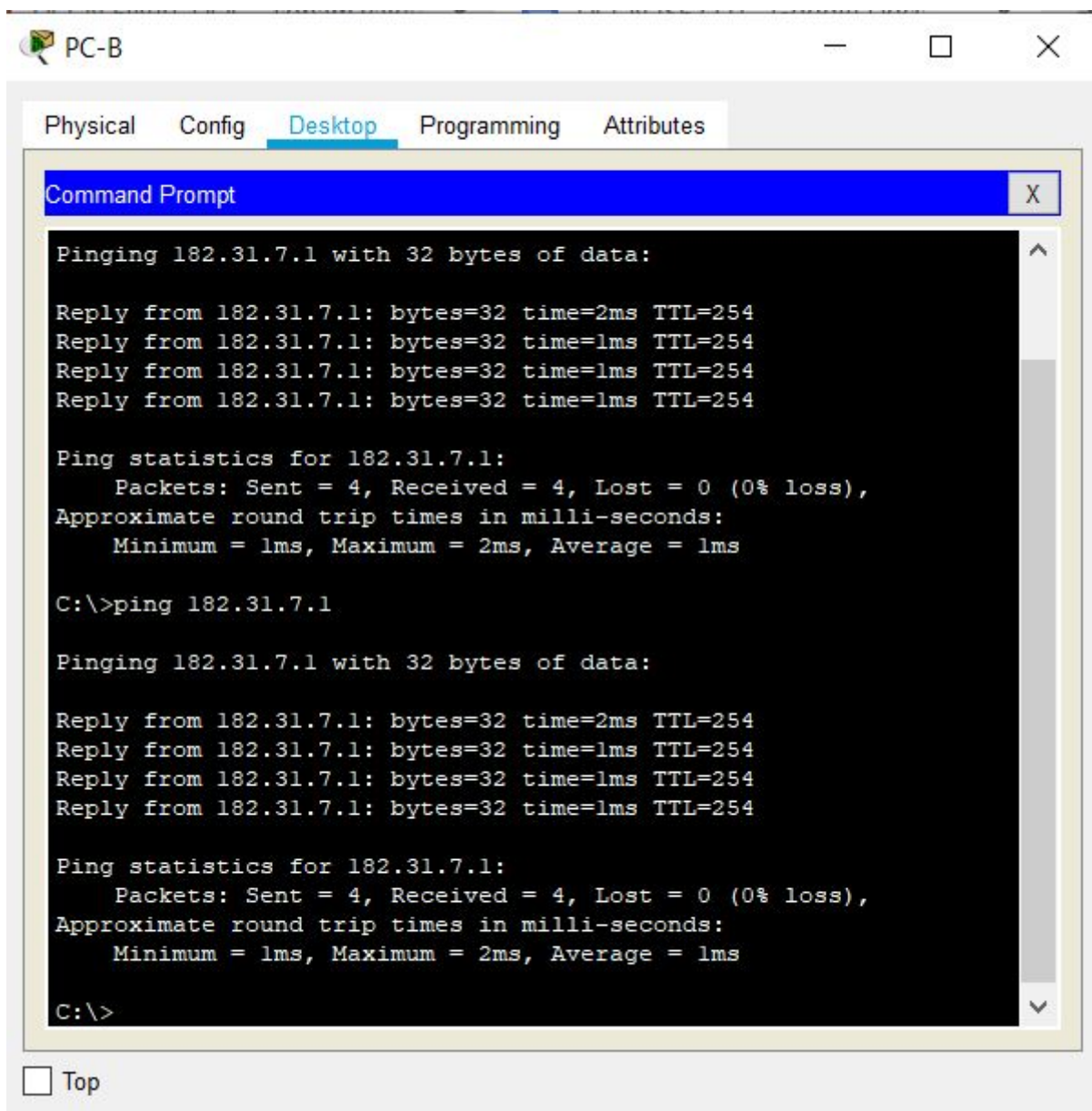
Ctrl+F6 to exit CLI focus   Copy   Paste

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ping 182.31.7.1 from PC-A:

PC-A   —   □   ✕

Physical   Config   Desktop   Programming   Attributes

Command Prompt   X

```
Packet Tracer PC Command Line 1.0
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=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
Reply from 182.31.7.1: bytes=32 time=2ms 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:\>
```

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ping 182.31.7.1 from PC-B: