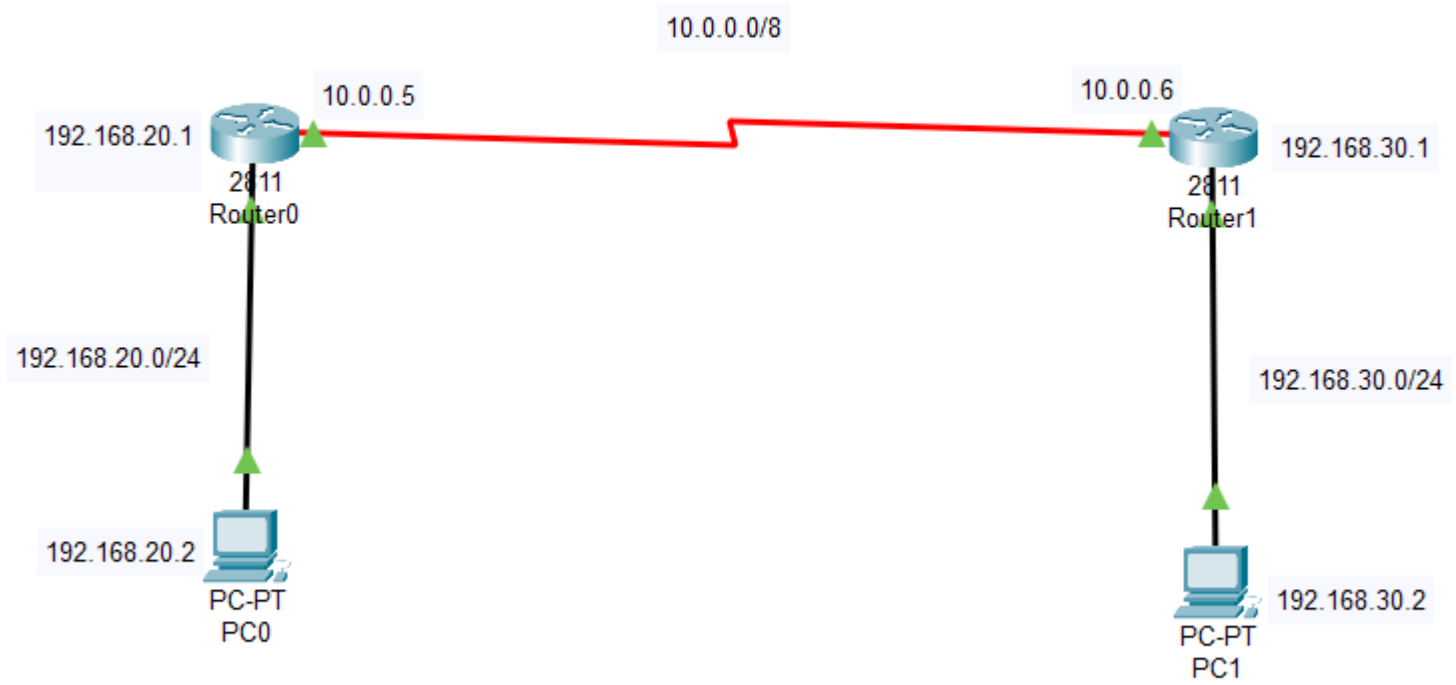
Gita Alekhya Paul **29/10/2021**

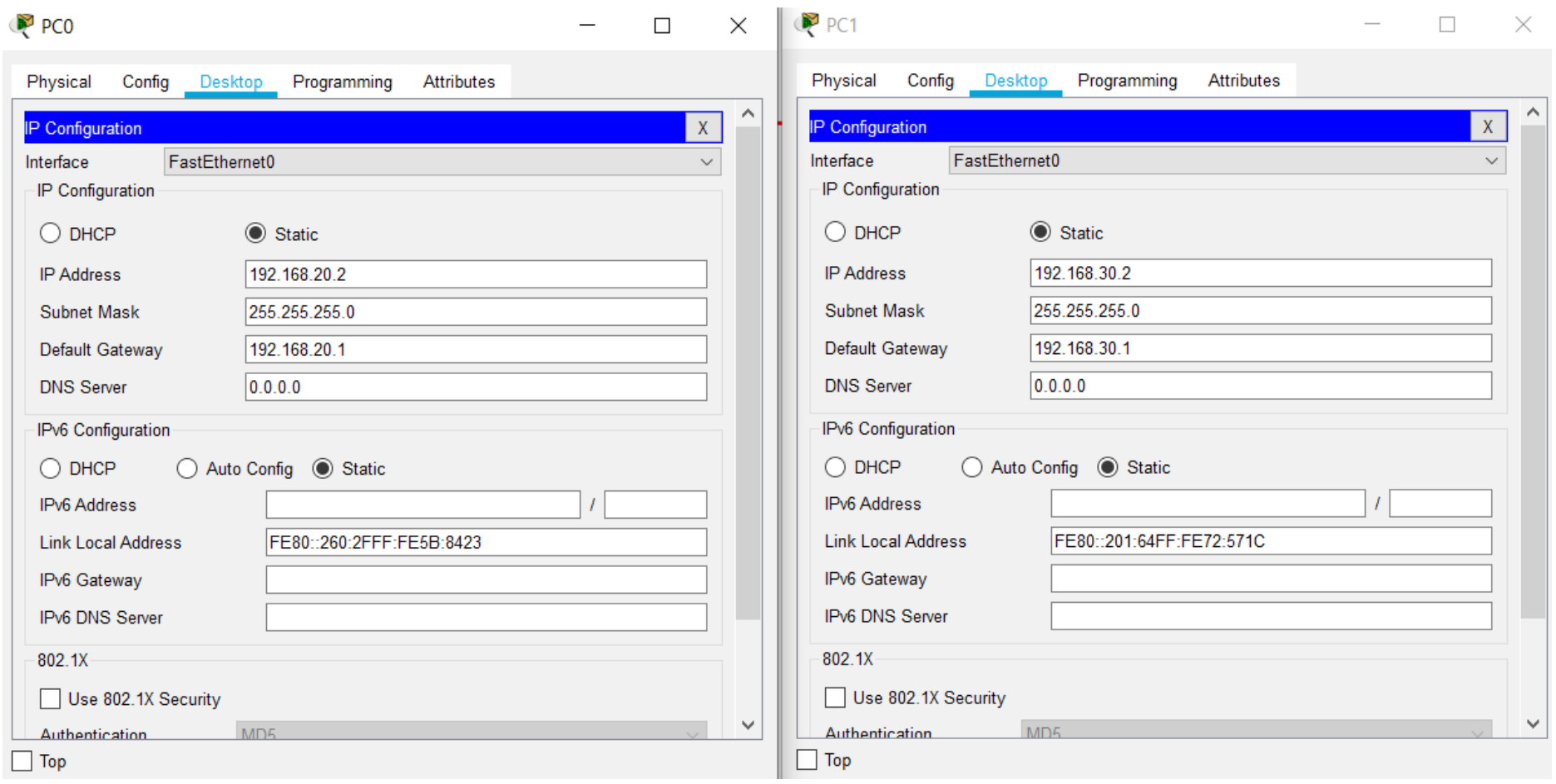
Computer Networks
RA1911030010014
Experiment - 14
Implementation of HDLC using Cisco Packet Tracer

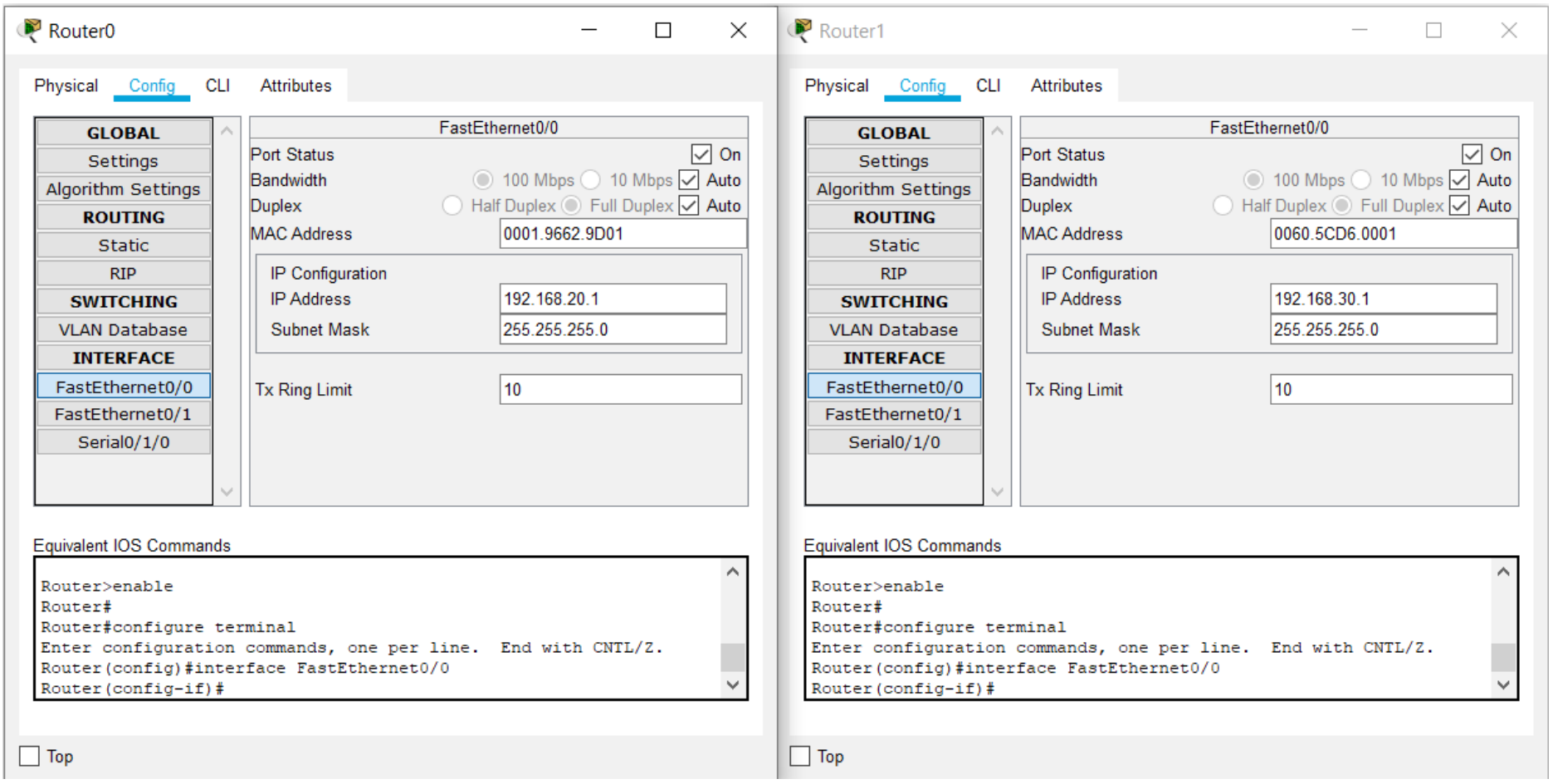
Aim: Implementation of HDLC using Cisco Packet Tracer.

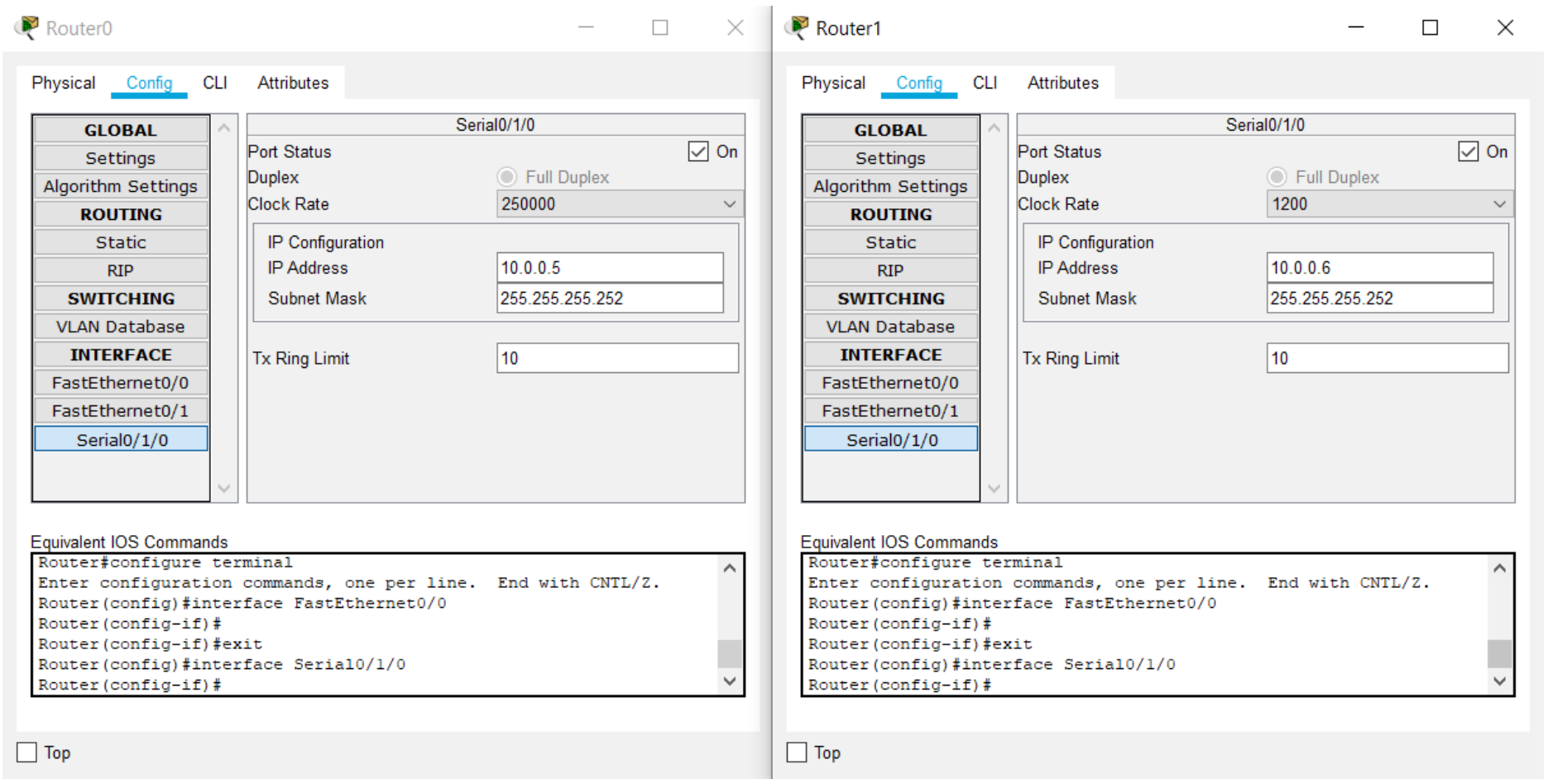
Connecting wires used: Copper straight through, serial DCE.
Connecting Devices: Router (2), PC (2).
Software: Cisco Packet Tracer

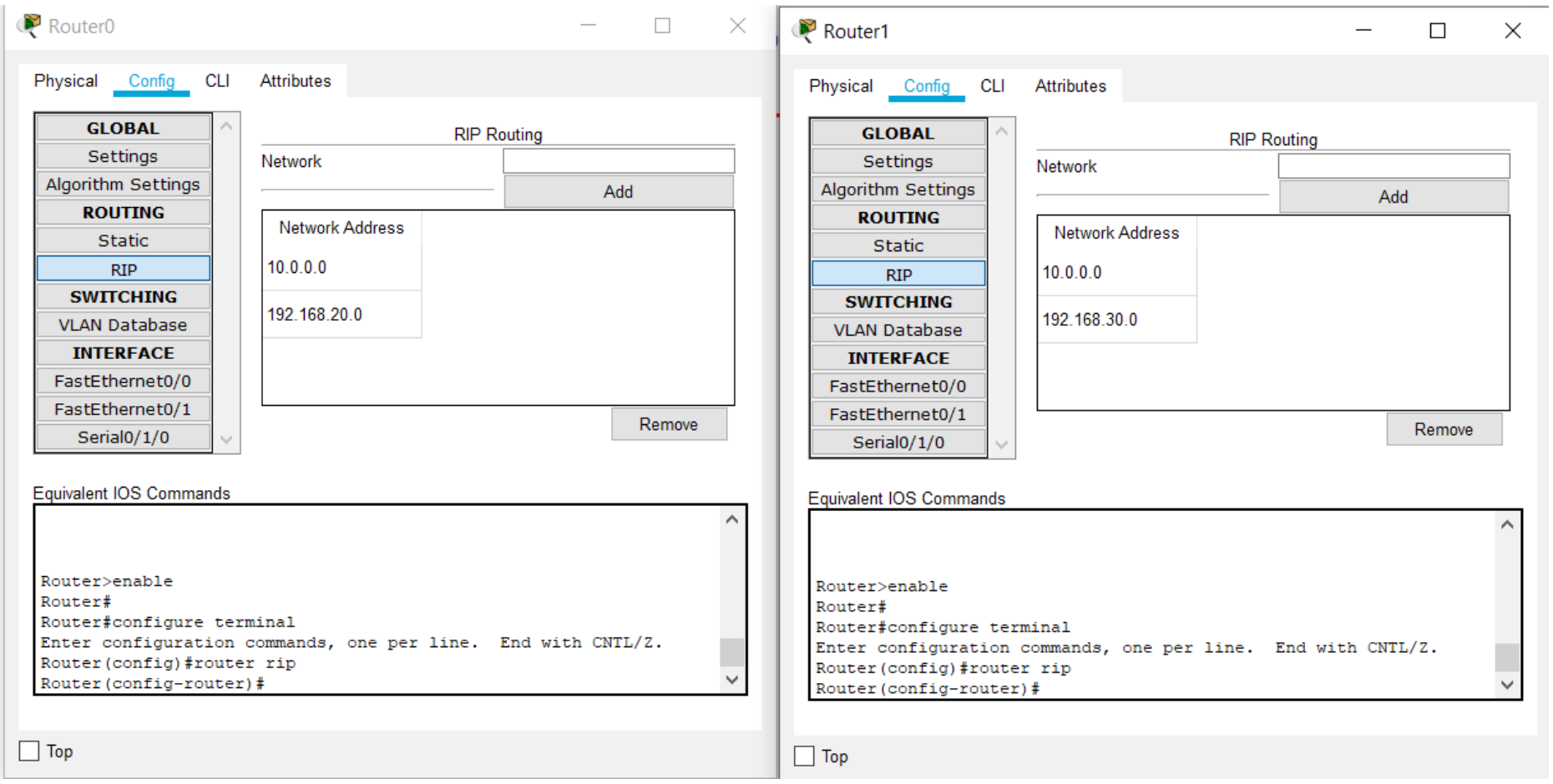
Circuit Configuration:

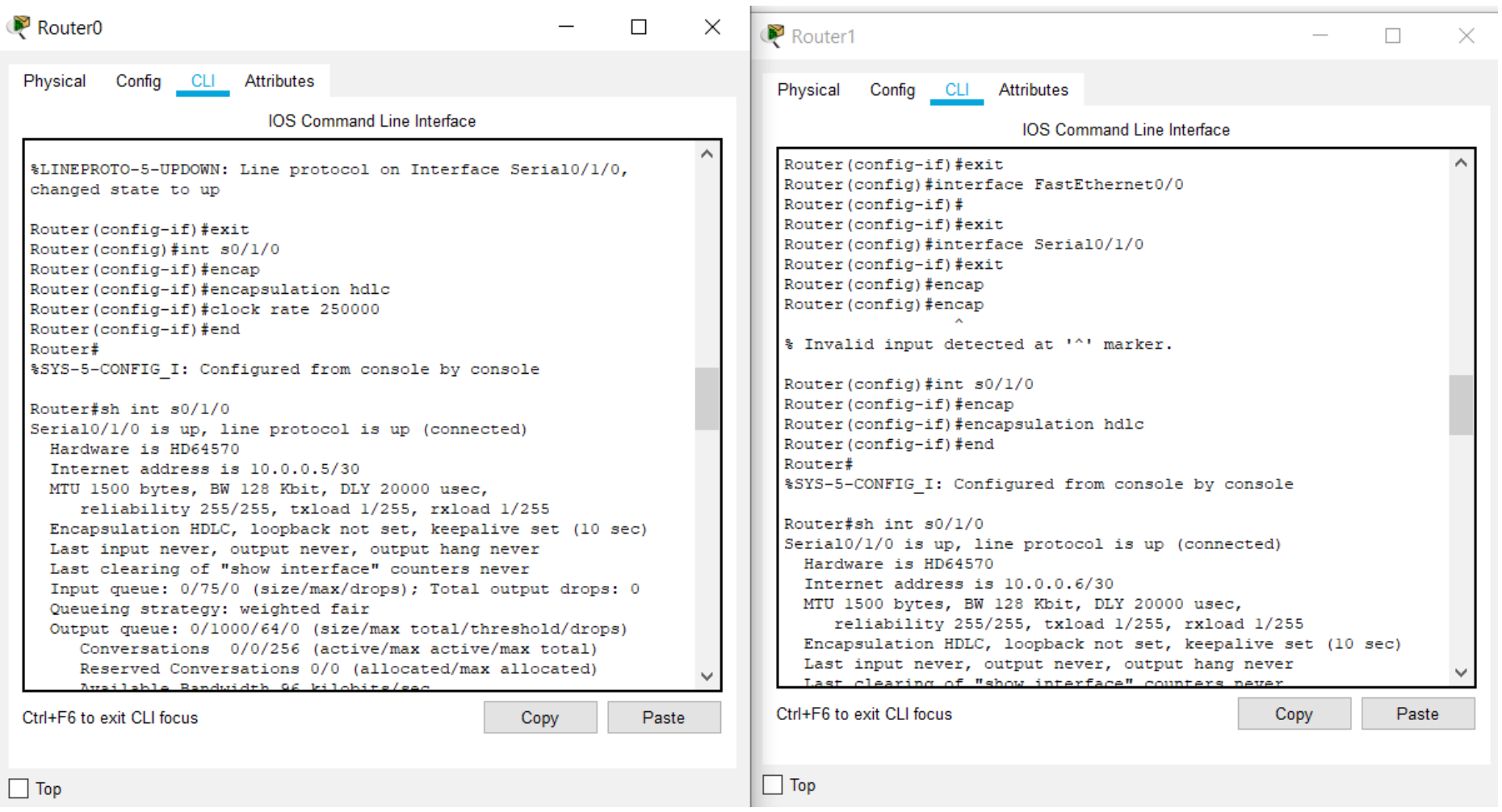





Router0
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
FastEthernet0/0
Port Status On
Bandwidth 100 Mbps 10 Mbps Auto
Duplex Half Duplex Full Duplex Auto
MAC Address 0001.9662.9D01
IP Configuration
IP Address 192.168.20.1
Subnet Mask 255.255.255.0
Tx Ring Limit 10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Top
Router1
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
FastEthernet0/0
Port Status On
Bandwidth 100 Mbps 10 Mbps Auto
Duplex Half Duplex Full Duplex Auto
MAC Address 0060.5CD6.0001
IP Configuration
IP Address 192.168.30.1
Subnet Mask 255.255.255.0
Tx Ring Limit 10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Top


Router0
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
Serial0/1/0
Port Status On
Duplex Full Duplex
Clock Rate 250000
IP Configuration
IP Address 10.0.0.5
Subnet Mask 255.255.255.252
Tx Ring Limit 10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Top
Router1
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
Serial0/1/0
Port Status On
Duplex Full Duplex
Clock Rate 1200
IP Configuration
IP Address 10.0.0.6
Subnet Mask 255.255.255.252
Tx Ring Limit 10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Top


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
RIP Routing
Network
Add
Network Address
10.0.0.0
192.168.20.0
Remove
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#
Top
Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
Serial0/1/0
RIP Routing
Network
Add
Network Address
10.0.0.0
192.168.30.0
Remove
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#
Top


Router0
Physical
Config
CLI
Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0,
changed state to up
Router(config-if)#exit
Router(config)#int s0/1/0
Router(config-if)#encap
Router(config-if)#encapsulation hdlc
Router(config-if)#clock rate 250000
Router(config-if)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#sh int s0/1/0
Serial0/1/0 is up, line protocol is up (connected)
Hardware is HD64570
Internet address is 10.0.0.5/30
MTU 1500 bytes, BW 128 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set, keepalive set (10 sec)
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0 (size/max/drops); Total output drops: 0
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/0/256 (active/max active/max total)
Reserved Conversations 0/0 (allocated/max allocated)
Ctrl+F6 to exit CLI focus
Copy
Paste
Top
Router1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#exit
Router(config)#encap
Router(config)#encap
^
% Invalid input detected at '^' marker.
Router(config)#int s0/1/0
Router(config-if)#encap
Router(config-if)#encapsulation hdlc
Router(config-if)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#sh int s0/1/0
Serial0/1/0 is up, line protocol is up (connected)
Hardware is HD64570
Internet address is 10.0.0.6/30
MTU 1500 bytes, BW 128 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set, keepalive set (10 sec)
Last input never, output never, output hang never
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

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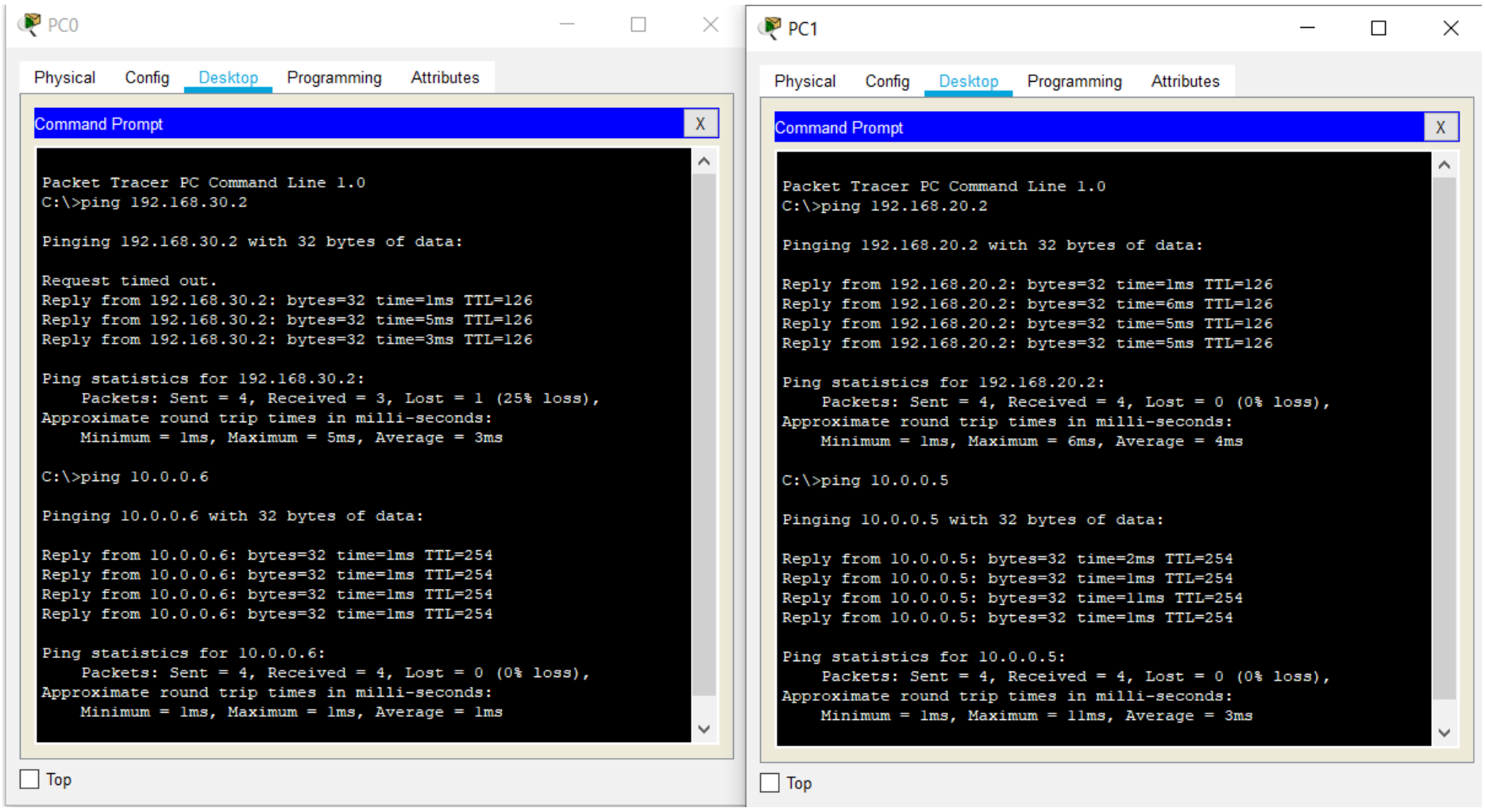
Ping Commands:



Result:

The required code for the Implementation of HDLC using Cisco Packet Tracer was written in the Cisco Packet Tracer environment and successfully executed.