# Lab

## (Cisco packet tracer)

## Subject: Computer Networks.

# Scope:

After performing this lab, Set IP addresses and subnet mask to a and use basic utilities used for IP addressing.

# Useful Concept:

Each Network Interface Card (NIC or Network card) in a PC is assigned one Network address called an IP address [or Network address]. The network administrator assigns this IP address. No two PCs can have the same IP address. A burned-in address on the NIC is called a Physical Address [or MAC address or Hardware address]. The MAC address of a network card indicates the vendor of that card and a unique serial number.

### Rules of IPv4 addressing

1. Format of IP address

2. IPv4 is made up of four parts, in the pattern as w.x.y.z. Each part has 8 binary bits and the

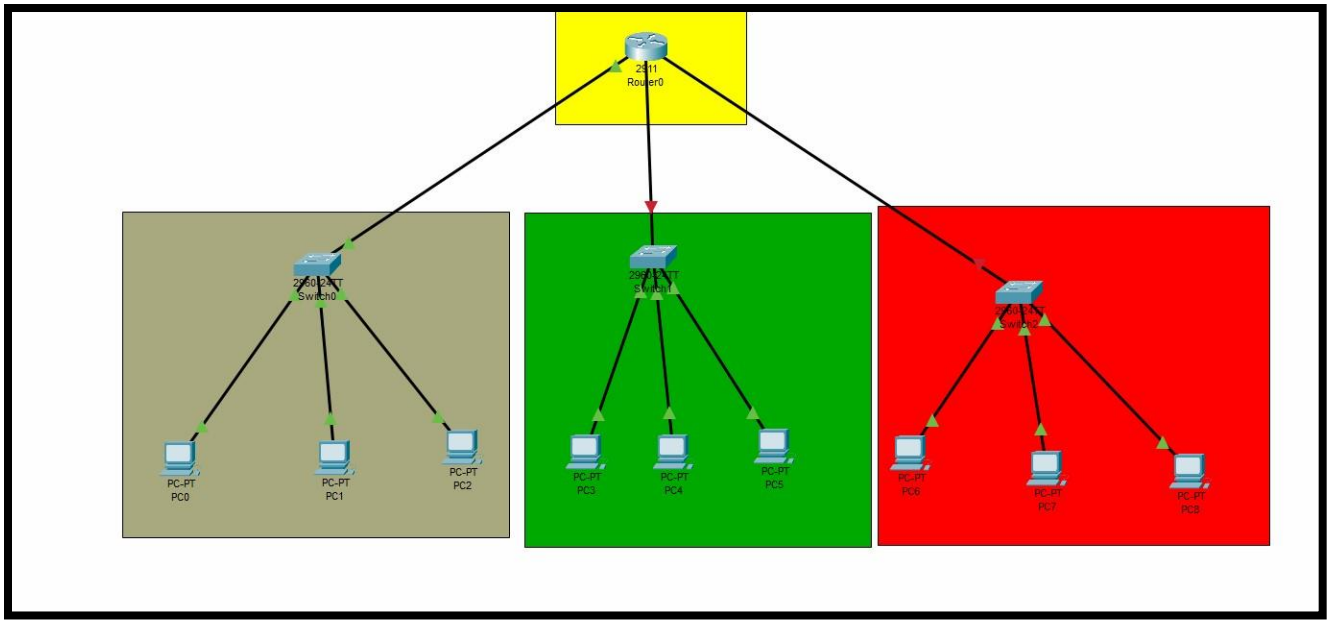
values in decimal can range from 0 to 255.

3. IP address classes

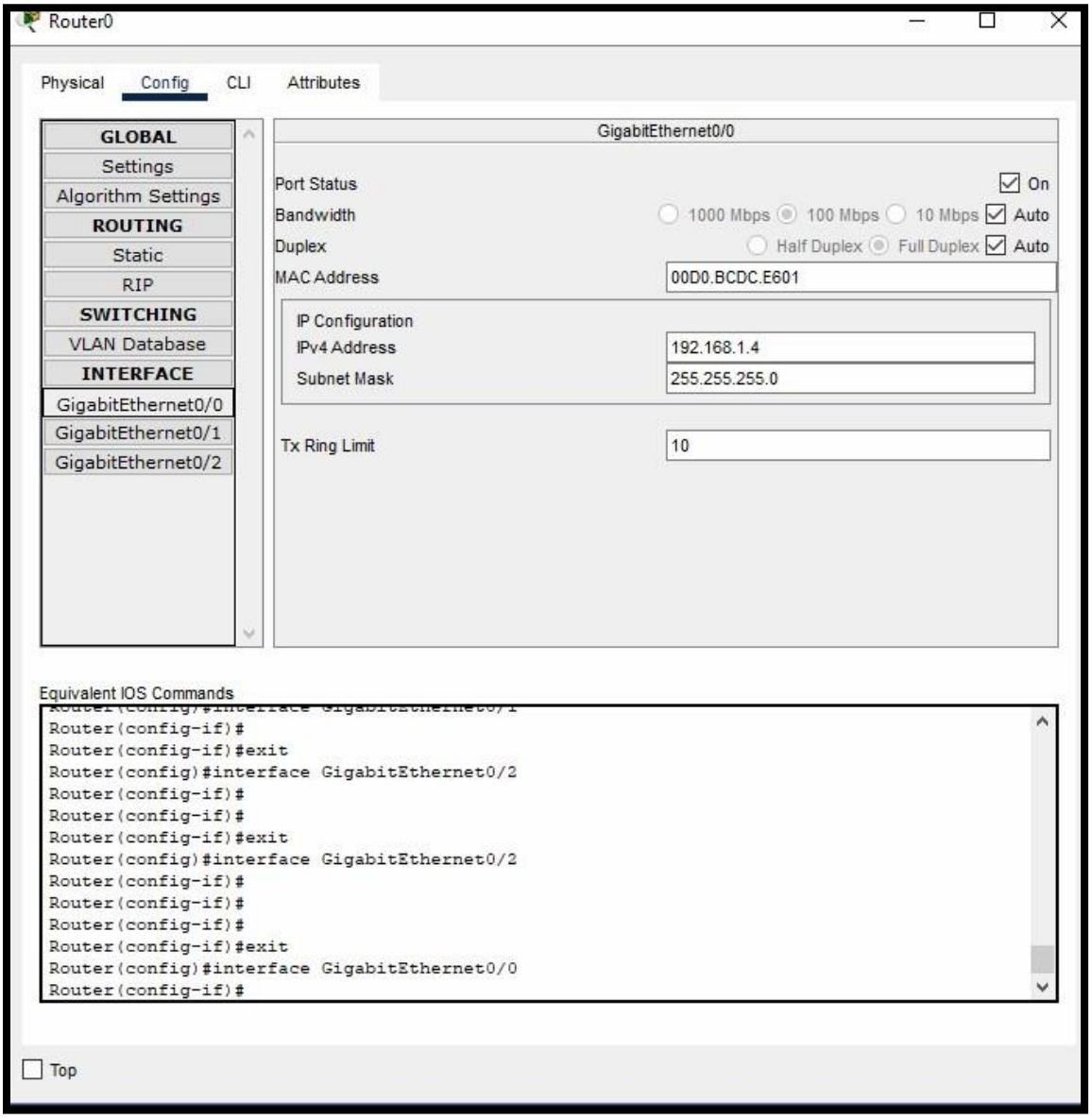
4. IP addresses are divided into different classes. These classes determine the maximum

number of hosts per network ID. Only three classes are actually used for network connectivity. The following table lists all of the address classes.

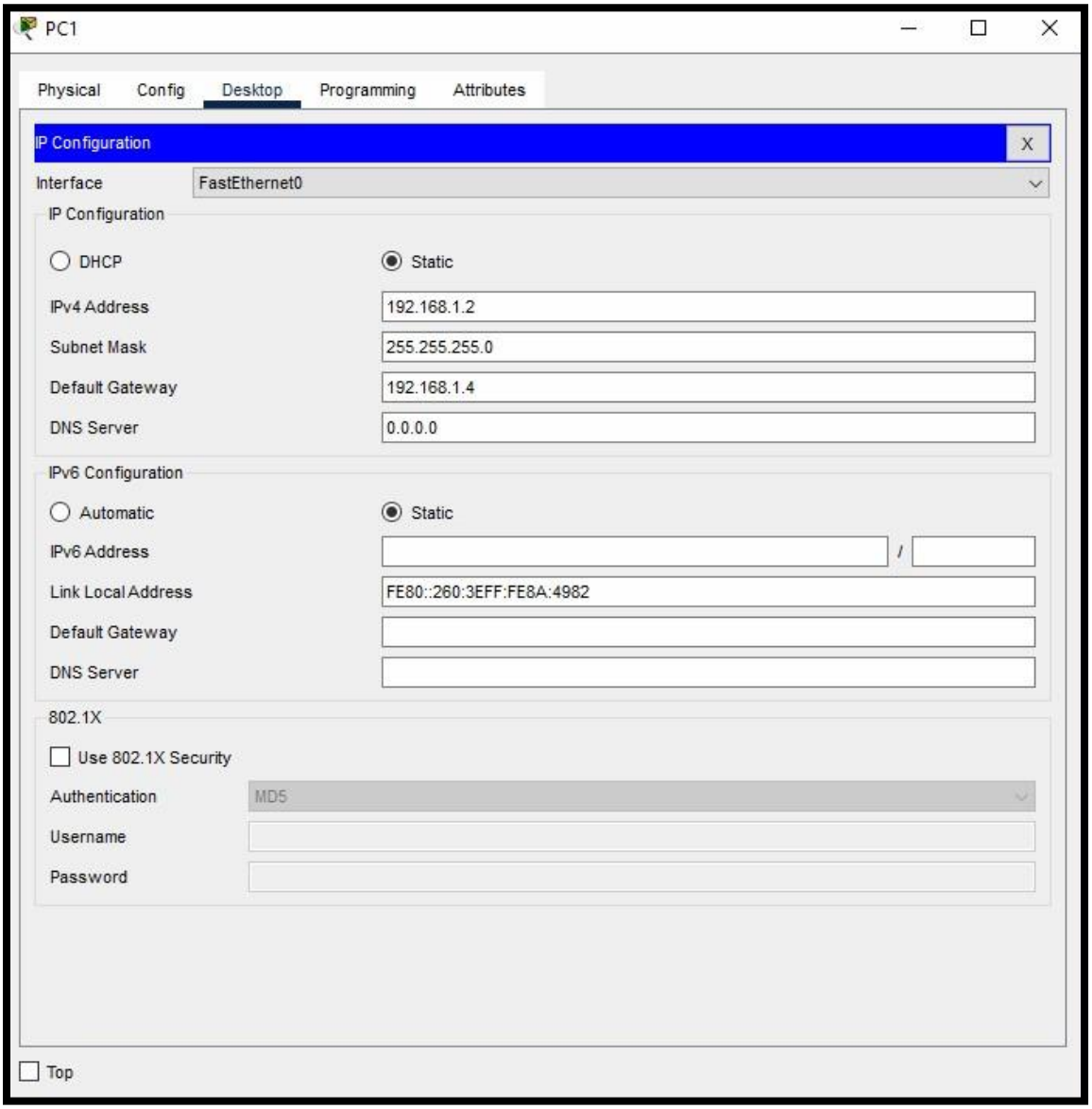
## SNAP SHOT#01



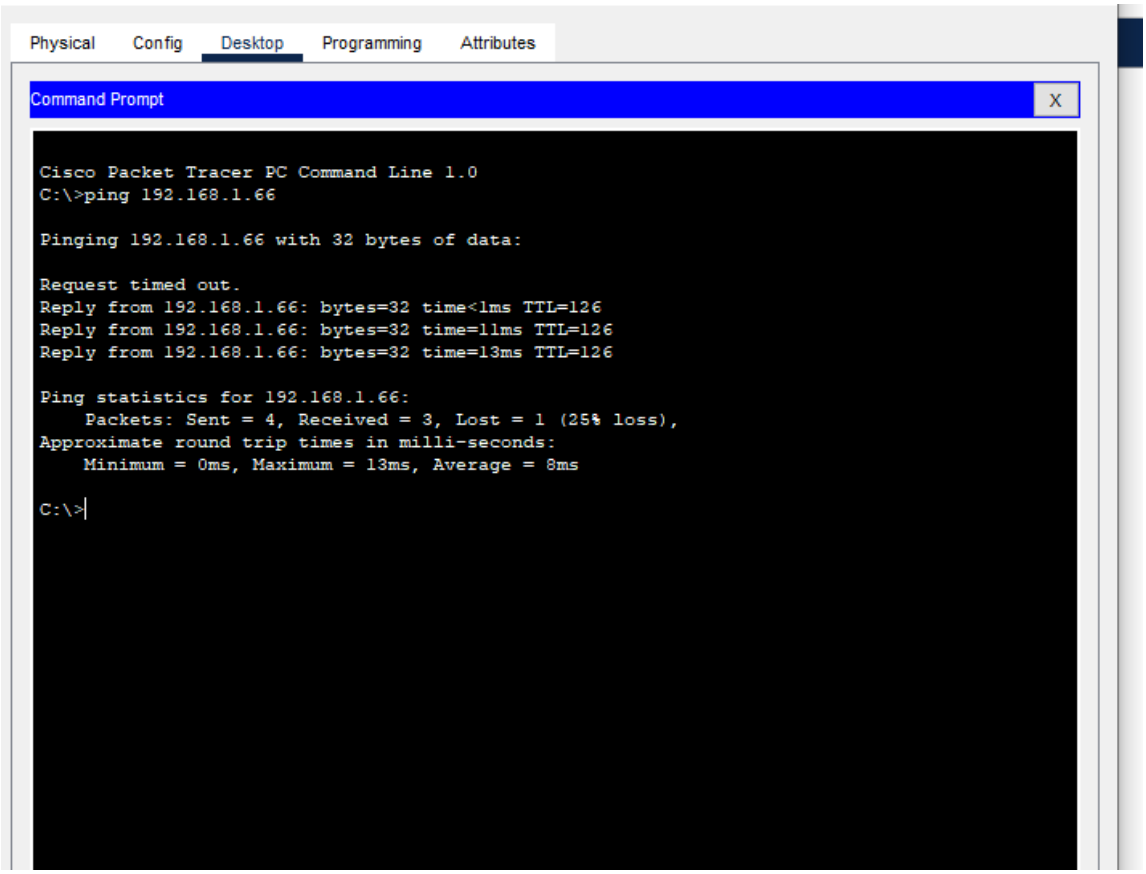
## SNAP SHOT#02


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0
GigabitEthernet0/1
GigabitEthernet0/2
GigabitEthernet0/0
Port Status
On
Bandwidth
1000 Mbps
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00D0.BCDC.E601
IP Configuration
IPv4 Address
192.168.1.4
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Top

## SNAP SHOT#03


PC1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
192.168.1.2
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.4
DNS Server
0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address
FE80::260:3EFF:FE8A:4982
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

## SNAP SHOT#04


Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.66
Pinging 192.168.1.66 with 32 bytes of data:
Request timed out.
Reply from 192.168.1.66: bytes=32 time<1ms TTL=126
Reply from 192.168.1.66: bytes=32 time=11ms TTL=126
Reply from 192.168.1.66: bytes=32 time=13ms TTL=126
Ping statistics for 192.168.1.66:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 13ms, Average = 8ms
C:\>