

**COMPUTER NETWORKS**  
**PRACTICUM 6**



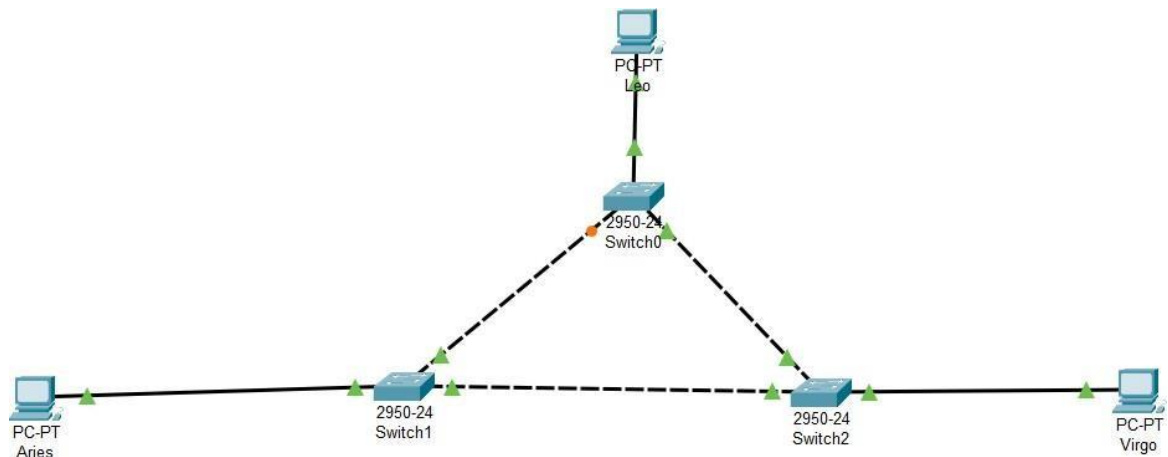
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**2020**

## 1. Activity 1



Picture 1.1 Set of computer network

### a. Assignment 1A

Write the step of making topology!

**Answer**

- 1) Put 3 PC-PT and 3 Switch type 2950-24
- 2) Connect PC-PT and Switch with straight cable. and connect the switch with other switch using cross cables

### b. Assignment 2A

Write the step of giving switch name!

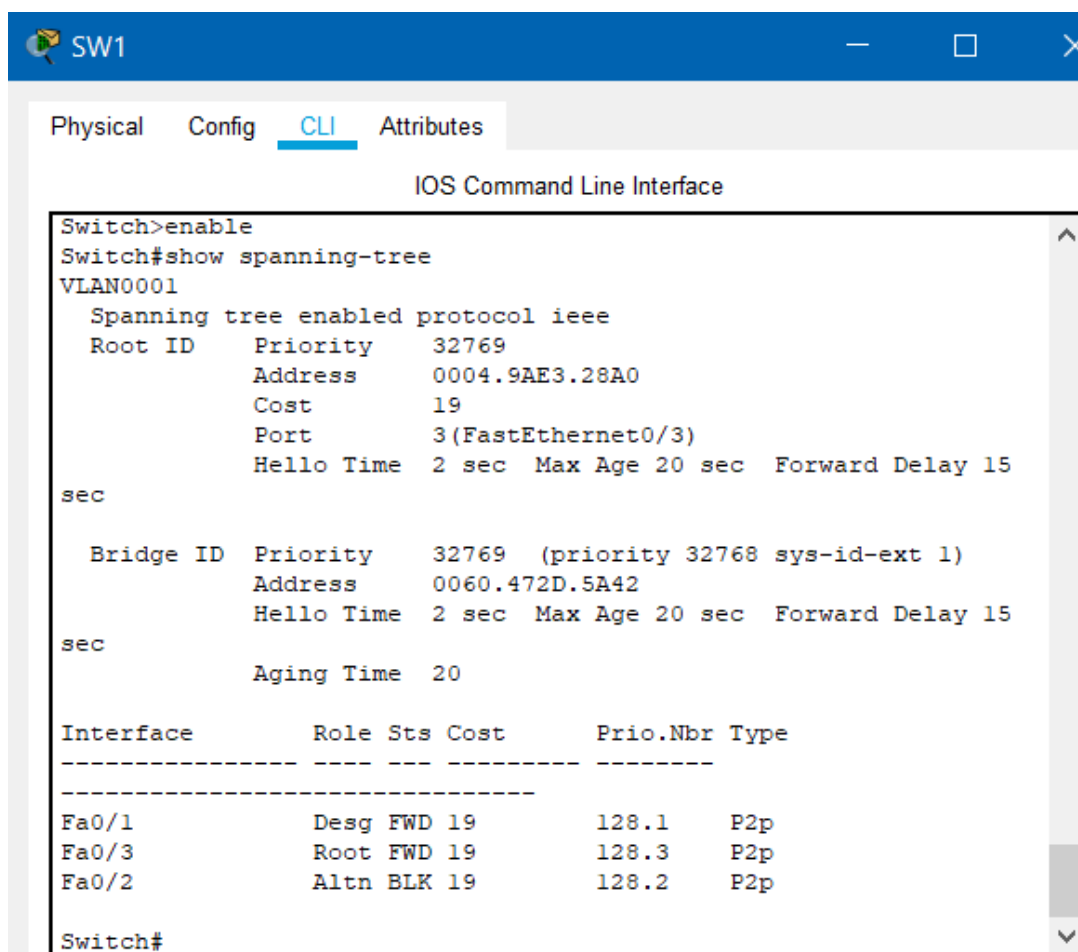
**Answer**

- 1) Click on the switch
- 2) Go to the config menu
- 3) Give a name in Display Name textfield

### c. Assignment 3A

By default, capture each STP switch status display (SW1, SW2, and SW3)!

**Answer**



The screenshot shows a network switch window titled 'SW1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show spanning-tree' in VLAN0001. The output shows that the spanning tree is enabled with the IEEE protocol. The root bridge has ID 32769, priority 32769, address 0004.9AE3.28A0, cost 19, and is on port 3 (FastEthernet0/3). The bridge ID is 32769, priority 32768, address 0060.472D.5A42, and the aging time is 20 seconds. A table lists the interfaces and their roles: Fa0/1 is Designated Forwarder (FWD) with cost 19 and priority 128.1; Fa0/3 is Root Forwarder (FWD) with cost 19 and priority 128.3; Fa0/2 is Alternate Blocked (BLK) with cost 19 and priority 128.2. All interfaces are P2P type.

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0004.9AE3.28A0
             Cost        19
             Port        3 (FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

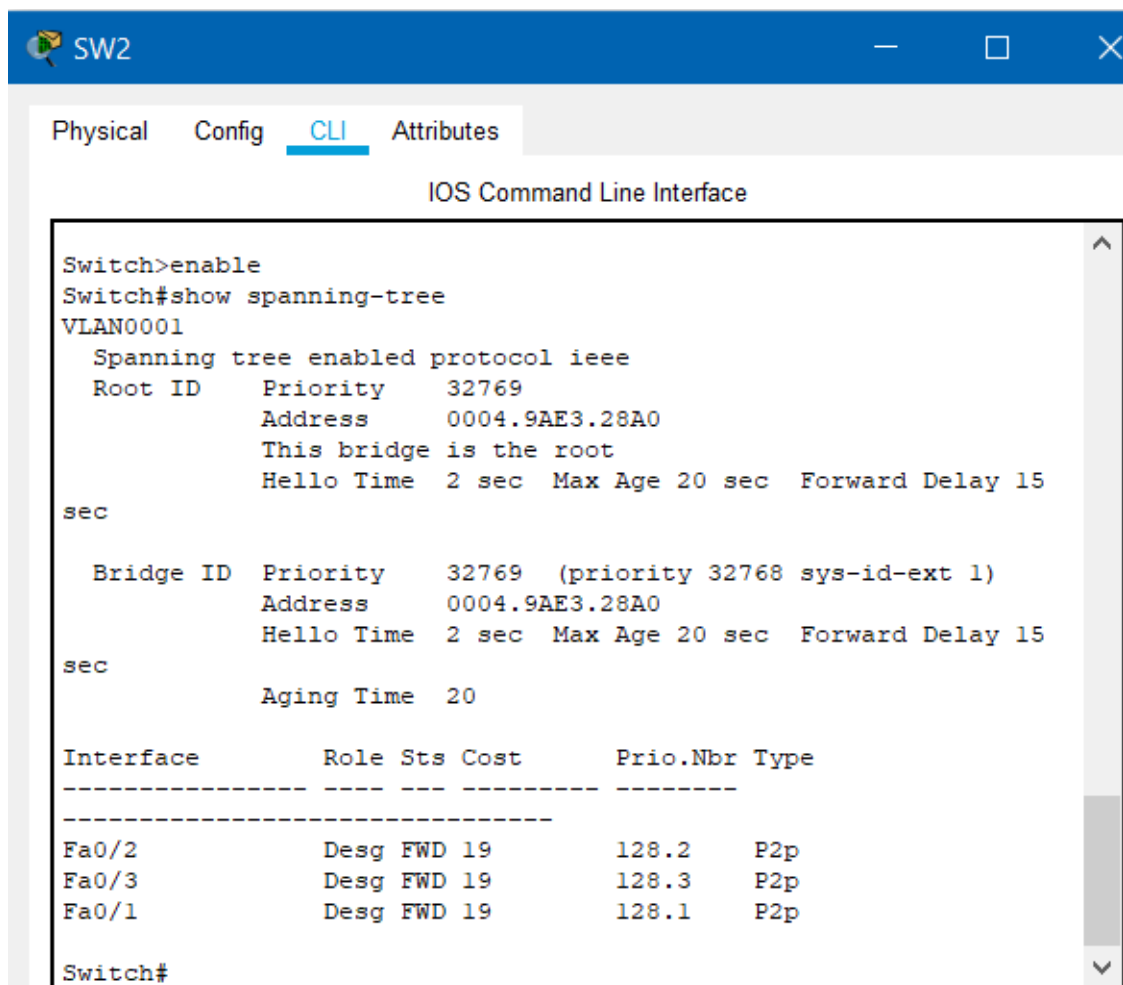
  Bridge ID   Priority    32769 (priority 32768 sys-id-ext 1)
             Address     0060.472D.5A42
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time  20

Interface      Role Sts Cost      Prio.Nbr Type
-----
Fa0/1          Desg FWD 19        128.1    P2p
Fa0/3          Root FWD 19        128.3    P2p
Fa0/2          Altn BLK 19        128.2    P2p

Switch#
```

Picture 1.2. Result from SW1



The screenshot shows a network switch window titled 'SW2' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show spanning-tree' in VLAN0001. The output shows that the spanning tree is enabled with the IEEE protocol. The root bridge is the switch itself, with a priority of 32769 and MAC address 0004.9AE3.28A0. The bridge ID is also 32769. The hello time is 2 seconds, max age is 20 seconds, and forward delay is 15 seconds. The aging time is 20 seconds. A table lists the interfaces and their roles in the spanning tree.

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0004.9AE3.28A0
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec
             Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     0004.9AE3.28A0
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec
             Aging Time  20

Interface          Role Sts Cost          Prio.Nbr Type
-----
Fa0/2              Desg FWD 19           128.2    P2p
Fa0/3              Desg FWD 19           128.3    P2p
Fa0/1              Desg FWD 19           128.1    P2p

Switch#
```

Picture 1.3. Result from SW2

The screenshot shows a network switch window titled 'SW3' with tabs for Physical, Config, CLI (selected), and Attributes. The CLI window displays the following output:

```

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address      0004.9AE3.28A0
            Cost        19
            Port        3(FastEthernet0/3)
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address      000D.BDB2.59EA
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

            Aging Time  20

Interface          Role Sts Cost          Prio.Nbr Type
-----
Fa0/2              Desg FWD 19           128.2    P2p
Fa0/1              Desg FWD 19           128.1    P2p
Fa0/3              Root FWD 19           128.3    P2p
Switch#
  
```

Picture 1.4. Result from SW3

**d. Assignment 3A**

For each switch, fill in the table!

**Answer**

SW1

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

SW2

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

#### SW3

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

#### e. Assignment 3B

Under these defaults, which switches and ports are:

- 1) Become the root bridge
- 2) Become a designated bridge
- 3) Become the root port
- 4) Become a designated port

#### Answer

- 1) SW2
- 2) SW1 & SW3
- 3) Fa0/3
- 4) Fa0/1

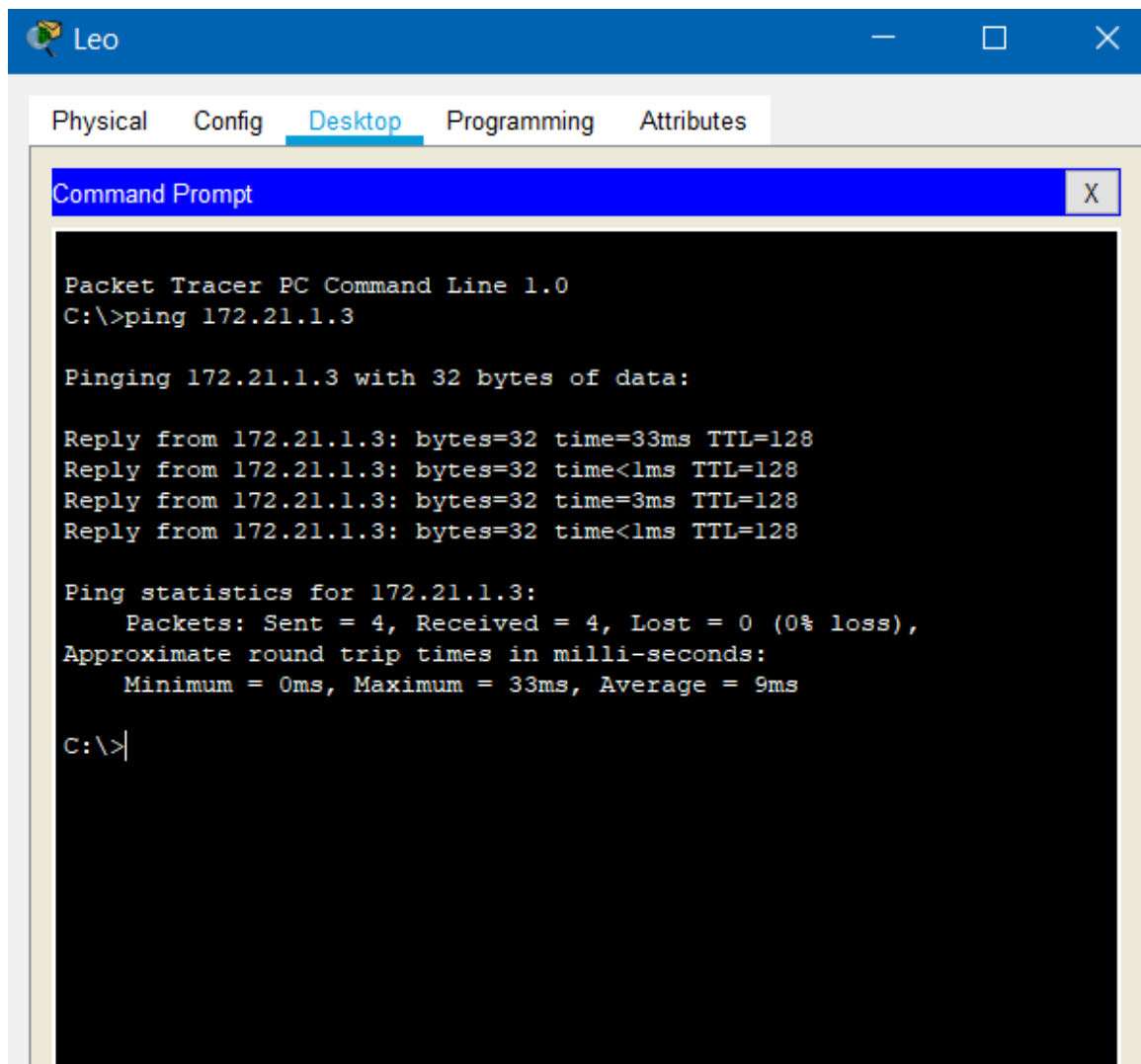
#### f. Assignment 3C

Under these default conditions, and which ports are:

- 1) Is in a forwarding state
- 2) Is in a blocking state
- 3) From PC Leo ping to PC Virgo

#### Answer

- 1) Fa0/1 and Fa0/3
- 2) Fa0/2
- 3)



Picture 1.5. Pinging from PC Leo to PC Virgo

**g. Assignment 3D**

Write the steps to do the ping command!

**Answer**

- 1) Click PC Leo
- 2) Go to desktop menu
- 3) Click Command Prompt
- 4) Type "ping 172.21.1.3"

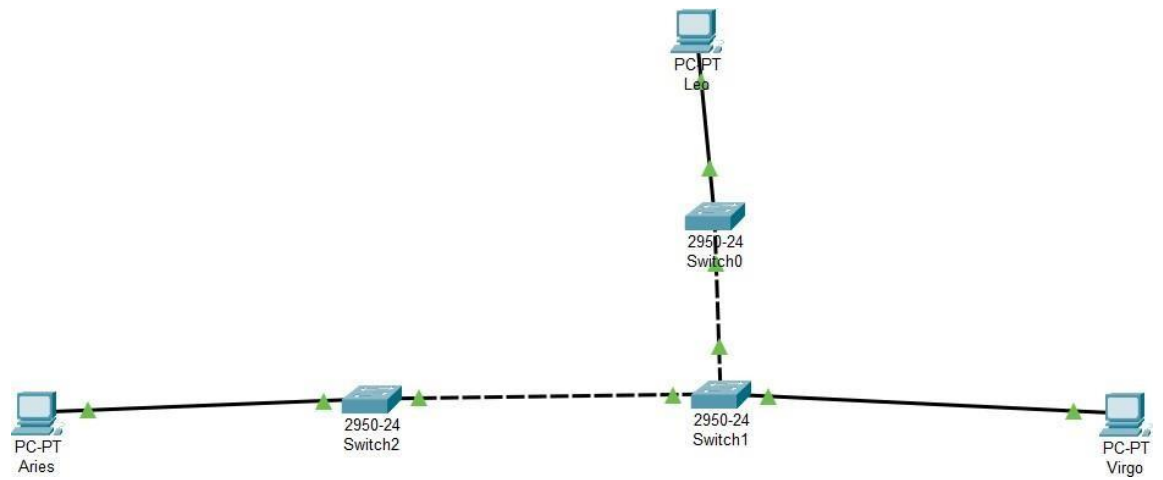
**h. Assignment 3E**

Write steps to save network configuration!

**Answer**

- 1) Click save button
- 2) Name it with "lab2"
- 3) Click save button

## 2. Activity 2



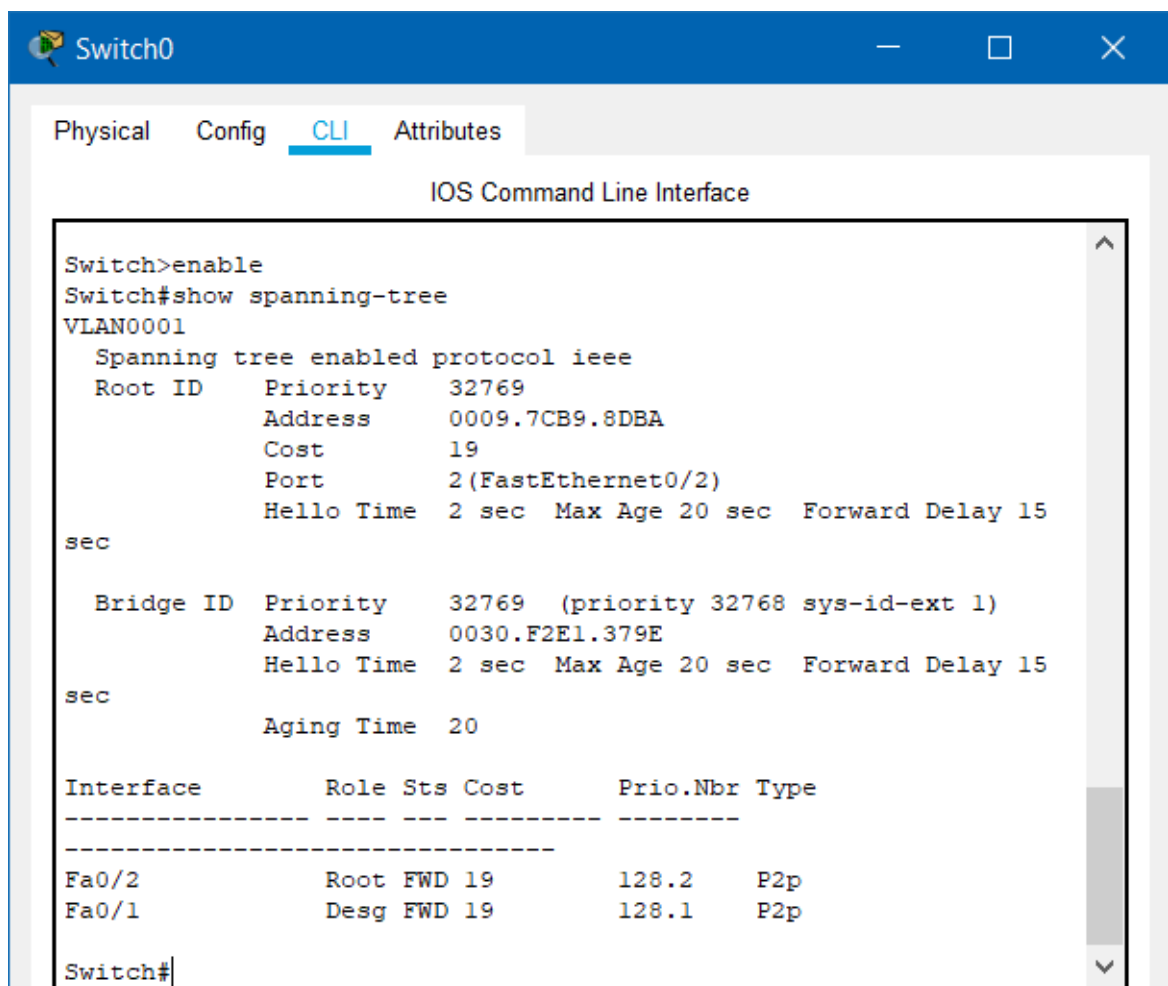
Picture 2.1. Set of computer network

### a. Assignment 3A

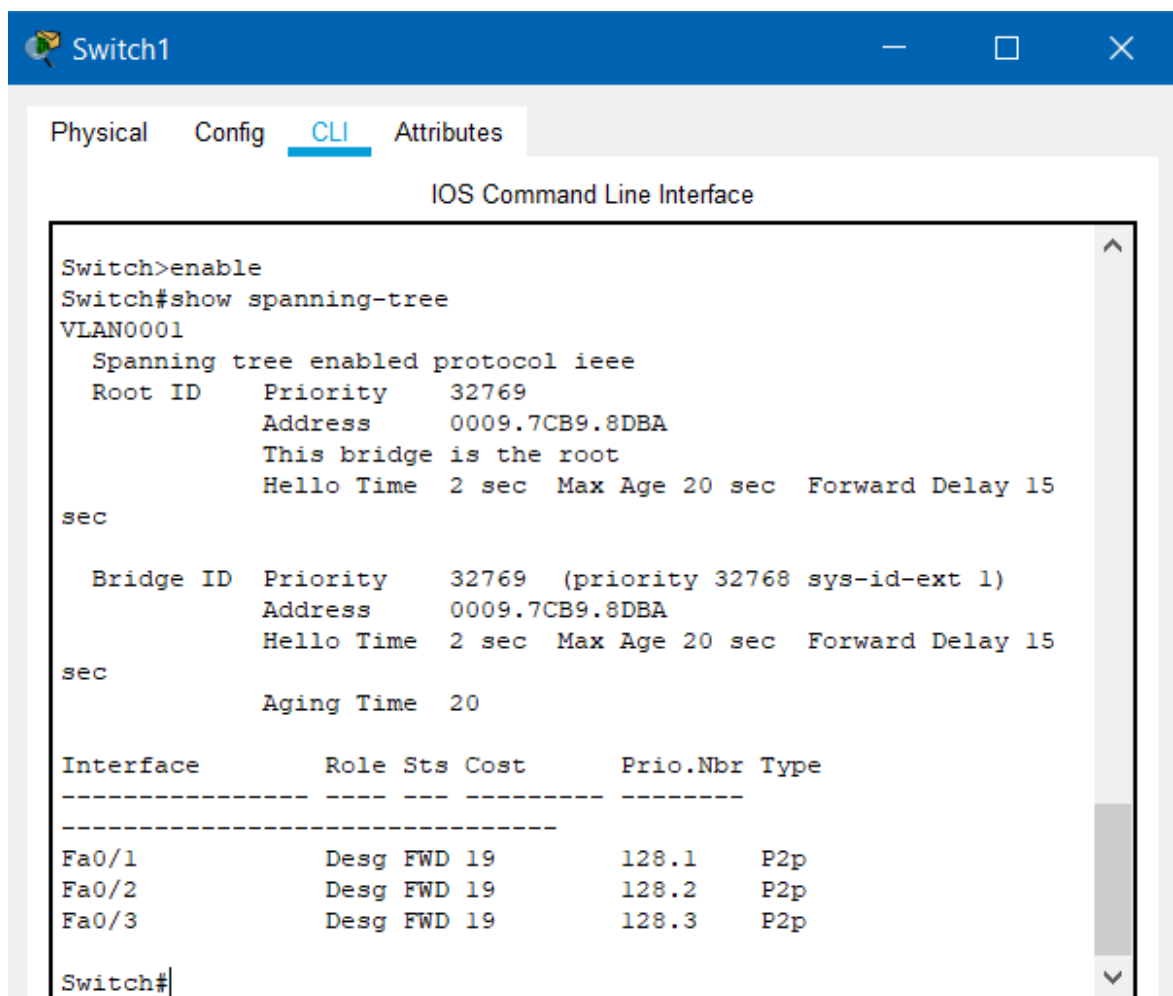
By default, capture each STP switch status display (SW1, SW2, and SW3)!

**Answer**





Picture 2.2. Result from SW1



Picture 2.3. Result from SW2

The screenshot shows a network switch window titled "Switch2". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The command sequence entered is:

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address    0009.7CB9.8DBA
            Cost      19
            Port      2 (FastEthernet0/2)
            Hello Time 2 sec  Max Age 20 sec  Forward Delay 15
sec
  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address    00E0.F95C.E55B
            Hello Time 2 sec  Max Age 20 sec  Forward Delay 15
sec
            Aging Time 20
```

Below this, a table shows the spanning tree roles for interfaces Fa0/1 and Fa0/2:

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/1	Desg	FWD	19	128.1	P2p
Fa0/2	Root	FWD	19	128.2	P2p

The prompt "Switch#" is visible at the bottom of the CLI window.

Picture 2.4. Result from SW3

**b. Assignment 3B**

For each switch, fill in the table!

**Answer**

SW1

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2)	19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

**SW2**

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

**SW3**

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2)	19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

**c. Assignment 3C**

Under these defaults, which switches and ports are:

- 1) Become the root bridge
- 2) Become a designated bridge
- 3) Become the root port
- 4) Become a designated port

**Answer**

- 1) SW2
- 2) SW1 & SW3
- 3) Fa0/2
- 4) Fa0/1

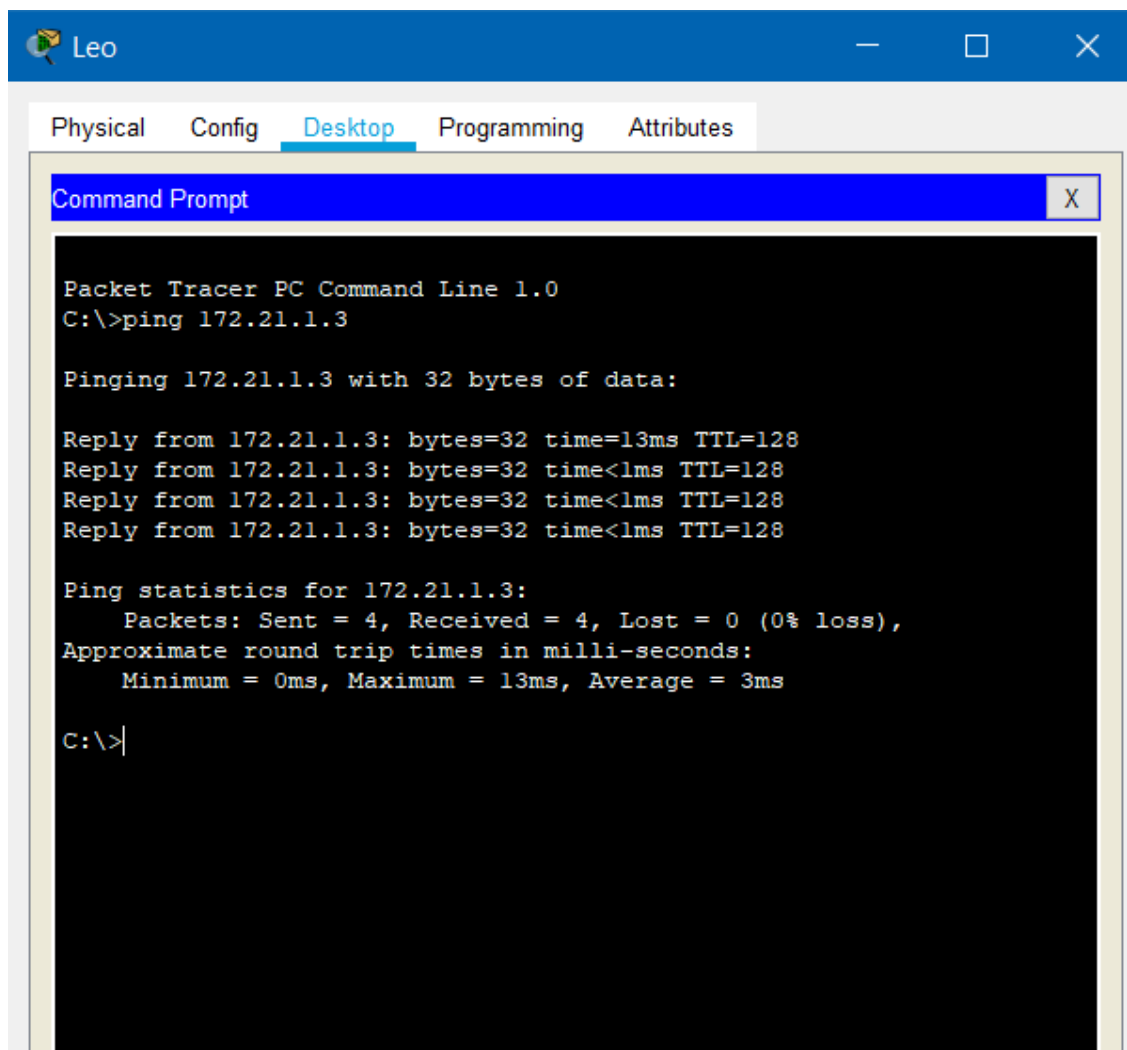
**d. Assignment 3D**

Under these default conditions, and which ports are:

- 1) Is in a forwarding state
- 2) Is in a blocking state
- 3) From PC Leo ping to PC Virgo

**Answer**

- 1) Fa0/1
- 2) None
- 3)



Picture 2.5. Pinging from PC Leo to PC Virgo

**e. Assignment 3D**

Write the steps to do the ping command!

**Answer**

- 1) Click PC Leo
- 2) Go to desktop menu
- 3) Click Command Prompt
- 4) Type "ping 172.21.1.3"