TSN2201 COMPUTER NETWORK
Lab 7 (Tri 2, 2019/2020)

Spanning-Tree Protocol (STP)

1. *Drag* a switch 2950 model into the packet tracer, click on the switch and then click on the CLI tab, you will see something like this

   > *Motherboard revision number: A0*
   >
   > *Model number: WS-C2950-24*
   >
   > *System serial number: FHK0610Z0WC*

2. Type: enable
   Switch> **enable**
   You will go to the privilege mode
   Switch#

3. *Switch#***show version**
   Identify the MAC address of the switch

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4. To show the spanning-tree port states
   *Switch#***show spanning-tree vlan 1**

   > *VLAN0001*
   > *Spanning tree enabled protocol ieee*
   > *Root ID   Priority   32769*
   >   *Address   0060.3E7E.B11D*
   >   *Hello Time   2 sec Max Age 20 sec Forward Delay 15 sec*
   > *Bridge ID Priority   32769 (priority 32770 sys-id-ext 1)*
   >   *Address   0060.707B.6ADD*
   >   *Aging Time 300*
   >
   > *Interface   Role Sts Cost   Prio.Nbr Type*
   > *---------------- ---- --- --------- -------- --------------------------------*
   > *Fa0/1   Desg FWD 19   128.3   Shr*
   > *Fa0/2   Root FWD 19   128.3   Shr*

   The 3rd column (BOLD) shows the port state, FWD Forwarding, BLK = Blocking.

   There are few things you can configure to influence the STP algorithm

1. Change the port speed
2. Change the STP cost for the port
3. Change the Switch bridge priority
4. Change the port priority
5. Etc.

Cisco IOS commands

Purpose	IOS command
Change the port speed	*Switch (config)#* **int** *interface-id* *Switch (config-if)#***speed** *speed-value* *Switch (config-if)#***end**
Change the STP cost for the port	*Switch (config)#* **int** *interface-id* *Switch (config-if)#***spanning-tree vlan** *vlan-id* **cost** *cost-value*
Change the Switch bridge priority	*Switch (config)#***spanning-tree vlan** *vlan-id* **priority** *value*
Change the port priority	*Switch (config)#* **int** *interface-id* *Switch (config-if)#* **spanning-tree vlan** *vlan-id* **port-priority** *value*

STP Lab Exercise

Use only the above commands and configure a network below.
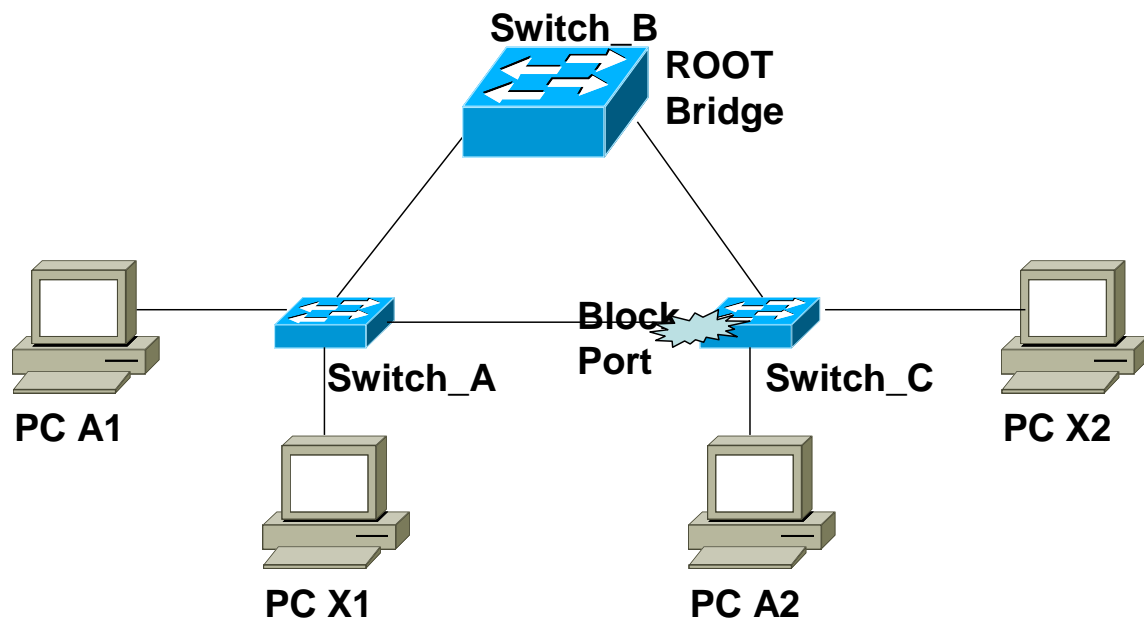
1. What is the default bridge Priority for Cisco Switches?

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2. How to ensure that SwitchB to become the Root Bridge without changing the default bridge priority in Switch A, B and C?

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_____

3. What is the command to make switchB become the Root Bridge?

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_____
_____

4. Suppose the word "primary" or "secondary" is disallowed in the command. What is the other command to enable switch to become the Root Bridge?

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5. You don't know what bridge priority is set in other bridges. You set switchB bridge priority to zero. What will happen to switch? Explain.

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6. Assume all bridge priorities are 32768, you want SwitchB to become the ROOT Bridge, however you cannot access the console port and telnet line for SwitchB. How do you ensure SwitchB become the Root Bridge without configuring SwitchB itself?

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