Exp No.: 8 Virtual LAN

a) Aim:

Simulate Virtual LAN configuration using cisco Packet Tracer simulation.

Procedure:

1. Create the network using 1 switch & 4PCs as shown in the figure.
2. Check the network by sending packets (optional)
3. Assign IP address to the PCs

PC0 - 10.0.0.1

PC1 - 10.0.0.2

PC2 - 10.0.0.3

PC3 - 10.0.0.4

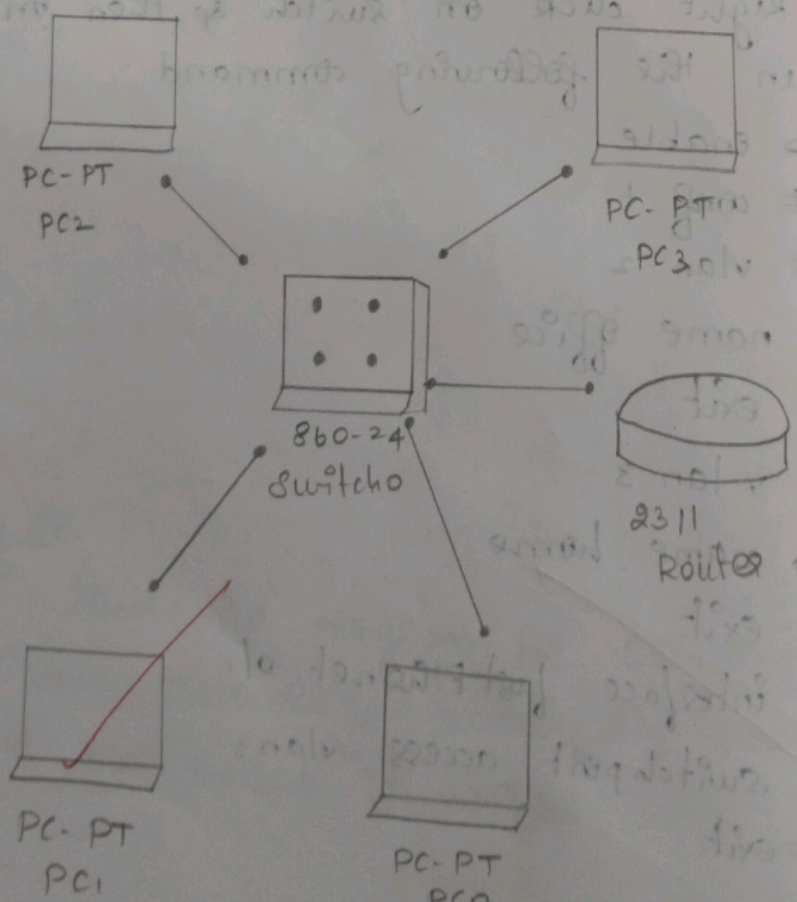
4. Right click on switch & then on CLI run the following command

```
> enable
# conf t
# vlan 2
# name office
# exit
# vlan 3
# name home
# exit
# interface fastEthernet 0/1
# switchport access vlan 2
# exit
```

interface fastethernet 0/2
switchport access vlan 2
exit
interface fastethernet 0/3
switchport access vlan 3
exit
interface fastethernet 0/4
switchport access vlan 3
exit

5. Now try pinging packet from PCs to one another

Diagramatic Representation:



Observation:

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Reflection

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Observation:

When packet transferred from PC0 to PC1 the packet are successfully transferred. similarly for PCs within same vlan packets are transferred successfully. Whereas for PCs can't transfer packets out of it VLan.

Reflection questions:

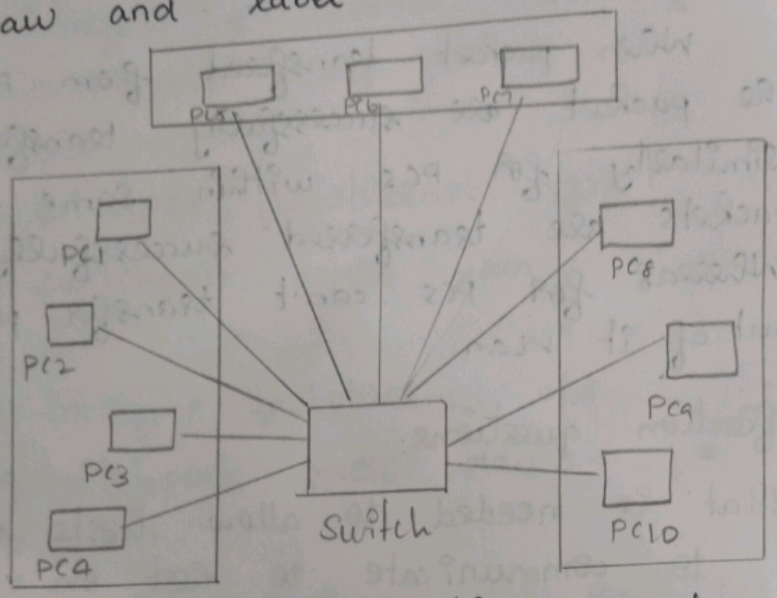
1. What is needed to allow hosts on VLAN 10 to communicate to host on VLAN 99?

You need a layer 3 device (a router or layer 3 switch) to enable inter-VLAN routing. and configure VLAN routing and configure. VLAN interfaces with IP addresses for both VLAN's. Ensure that ACLs allow traffic between the VLANs and that hosts are set the appropriate default gateways.

2. What are some primary benefits that an organisation can receive through effective use of LANs?

Effective use of LAN's improves network segmentation enhancing security and reducing broadcast traffic.

a) Draw and label the VLAN for Q6)



b) Show the ip configuration for each device

Device	IP address	Subnet mask	Default gateway
PC1	192.168.20.2	255.255255.0	192.168.20.1
PC2	192.168.20.3	255.255.255.0	192.168.20.1
PC3	192.168.20.4	255.255.255.0	192.168.20.1
PC4	192.168.20.5	255.255.255.0	192.168.20.1
PC5	192.168.20.5	255.255.255.0	192.168.20.1
PC6	192.168.20.5	255.255.255.0	192.168.20.1
PC7	192.168.20.5	255.255.255.0	192.168.20.1
PC8	192.168.20.5	255.255.255.0	192.168.20.1
PC9	192.168.20.5	255.255.255.0	192.168.20.1
PC10	192.168.20.5	255.255.255.0	192.168.20.1

c) Write the
in switch
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switch
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switch

Result:
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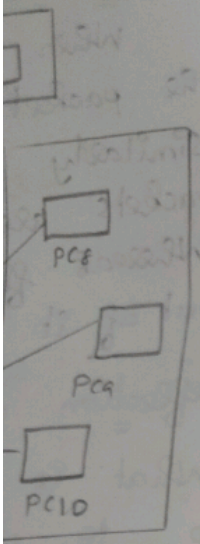
AN for Q6)



& each device

Default gateway
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c) Write the commands used for VLAN config in switch:

```
switch > enable
switch # configure terminal
switch (config) # VLAN 10
switch (config - VLAN) # name Robotics
switch (config - VLAN) # exit
switch (config) # interface range if 01-10
Switch (config - if - range) # switchport mode access
switch (config - if - range) # switchport access vlan 10
switch (config - if - range) # exit
```

Result:

Thus, the simulation of virtual LAN configuration using cisco packet tracer has been performed and the o/p is verified.