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Answer the Following:

Q1. What is VLAN? Why do we require VLAN?

Answer: VLAN stands for Virtual Local Area Network. It is used to create a virtual network that can function between multiple connections. Two devices connected to two different switches can communicate with each other like they are on the same LAN using VLAN.

Q2. Differentiate between HUB, Bridge and Switch?

Ans:

Hub	Bridge	Switch
A repeater device.	An intelligent connecting device.	Like a Bridge with more ports.
A message sent by one host is broadcasted to all other hosts.	A packet is processed based on its MAC address.	It can handle large data traffic and useful for end-computing devices.

Q3. Show command can be executed from Configuration mode (T/F).

Ans: False, show command is executed from Privilege Mode.

Q4. What information we get on using following commands:

- Show interface
- Show VLAN
- Show History

Ans:

show history: Displays the session command history.

show interface: Displays interface status and configurations.

show vlan: Displays VLAN status including name and ports assigned.

Q5. What measures should be taken if following output is received "Fa0/1 is down and line protocol is down".

Ans: This output means that the interface is in its default state i.e. DOWN and has not been linked properly whereas line protocol being down relates to mismatch in clockrate.

Q6. While creating VLAN which port should be preferred for connection between two switches? and why?

- Ethernet
- Fast Ethernet

Ans: Fast Ethernet should be used to connect a switch with a router or with each other. It supports data rate of 100 Mbps and are called special ports.

Lab Task:

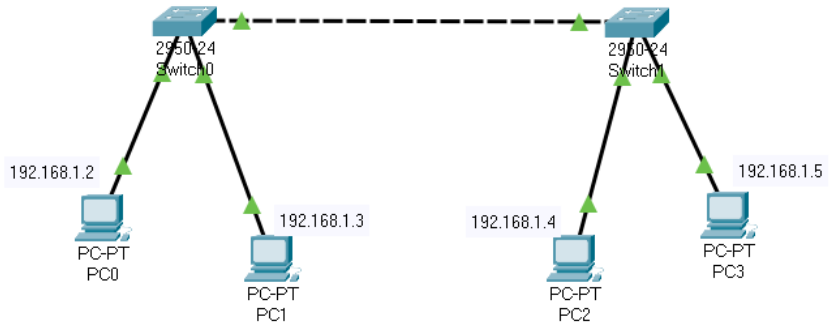

Figure 1: Network Topology

```
Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.5

Pinging 192.168.1.5 with 32 bytes of data:

Reply from 192.168.1.5: bytes=32 time=151ms TTL=128
Reply from 192.168.1.5: bytes=32 time=8ms TTL=128
Reply from 192.168.1.5: bytes=32 time<1ms TTL=128
Reply from 192.168.1.5: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 151ms, Average = 39ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=6ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=3ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 6ms, Average = 2ms
```

Figure 2: Testing network using PING