

## Question-2:

Capture and analyze Ethernet frames using Wireshark. Inspect the structure of the frame, including destination and source MAC addresses. Ether type, payload and FCS. Use GNS3 or Packet Tracer to simulate network traffic.

A simple network topology was designed using **Cisco Packet Tracer**, consisting of

- **Two end devices (PC0 and PC1)**
- **One network switch**
- **Ethernet connections between the devices and the switch**

Each device was configured with unique IP addresses within the same subnet to facilitate communication.

The screenshot displays the Cisco Packet Tracer interface. On the left, a network topology is shown with two PCs (PC0 and PC1) connected to a central switch (Switch0). On the right, the 'Simulation Panel' is open, showing an 'Event List' table. The table has columns for 'Vis.', 'Time(sec)', 'Last Device', and 'At Device'. The events listed are:

Vis.	Time(sec)	Last Device	At Device
	0.000	--	PC0
🔊	0.001	PC0	Switch0
	0.002	Switch0	PC1
	0.003	PC1	Switch0
	0.004	Switch0	PC0
	1.842	--	Switch0
	1.843	Switch0	PC0
	1.843	Switch0	PC1
	3.843	--	Switch0

Below the event list, there are controls for 'Reset Simulation', 'Constant Delay', and 'Captured to: 3.843 s'. There are also 'Play Controls' buttons (play, pause, stop) and a section for 'Event List Filters - Visible Events' listing various protocols like ACL, ARP, Bluetooth, CAPWAP, CDP, DHCPv6, DTP, EAPOL, EIGRPv6, FTP, H.323, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, Meraki, NDP, NETFLOW, NTP, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP. At the bottom, there is a table with columns: Fire, Last Status, Source, Destination, Type, Color, Time(sec), Periodic, Num, Edit, Delete. The first row shows a successful ICMP packet from PC0 to PC1 at 0.000 seconds.

## Ethernet frame:

