**Program 8**

**Aim:** To construct simple LAN and understand the concept and operation of Address Resolution Protocol (ARP)

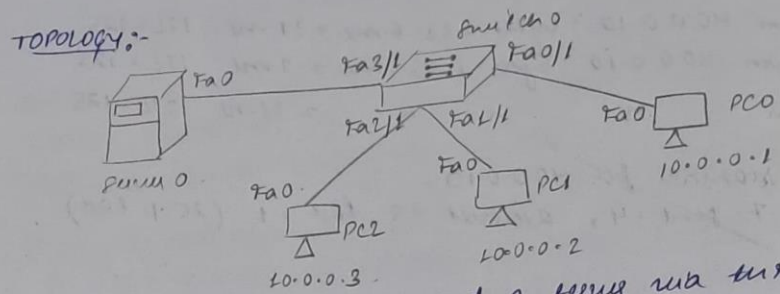
**Topology, Procedure and Observation:**

EXPERIMENT-8

To construct a simple LAN & understand concept and operation of ARP.

AIM:- Construct a simple LAN simulate operation of Address Resolution Protocol.

TOPOLOGY:-




1. Switch connected to 3 PCs and a server via three fast ethernet interfaces and one ethernet interface respectively.
2. All connections made via copper straight through cable.

PROCEDURE:-

(1) Open cisco packet tracer & drag the following switch, PC: place 3 PC's, each connected to switch 0 and server: place 1 server and connect it to switch 0.

(2) Assign an IP address and subnet mask to all the devices then connect them via a switch.

(3) Use the inspect tool ('q'), click on a PC to view ARP table.
Display the ARP table of all the devices.

(4) Initially ARP is empty for all.

(5) Also in CLI of switch, the command = show mac address - table can be given on every transaction to see how the switch learns from transactions and build the address table.

(6) Use the capture button in the simulation panel to go step by step so that changes in ARP can be clearly noted.

7. Observe the packets as nodes updated the ARP table as and when ping communication starts

Observation:

- As the message travels from source node to its destination node the ARP table of all devices get updated.

ARP maps an IP address to a MAC address.
It ensures communication network in a local network.

ARP table for PC0 (source):-

| IP address | Hardware Address | Interface |
|---|---|---|
| 10.0.0.3 | 0060.2729.2CB8 | FastEthernet0 |

ARP table for PC2 (destination):-

| IP address | Hardware Address | Interface |
|---|---|---|
| 10.0.0.1 | 00D0.D302.96DB | FastEthernet0 |

## Screen Shots: