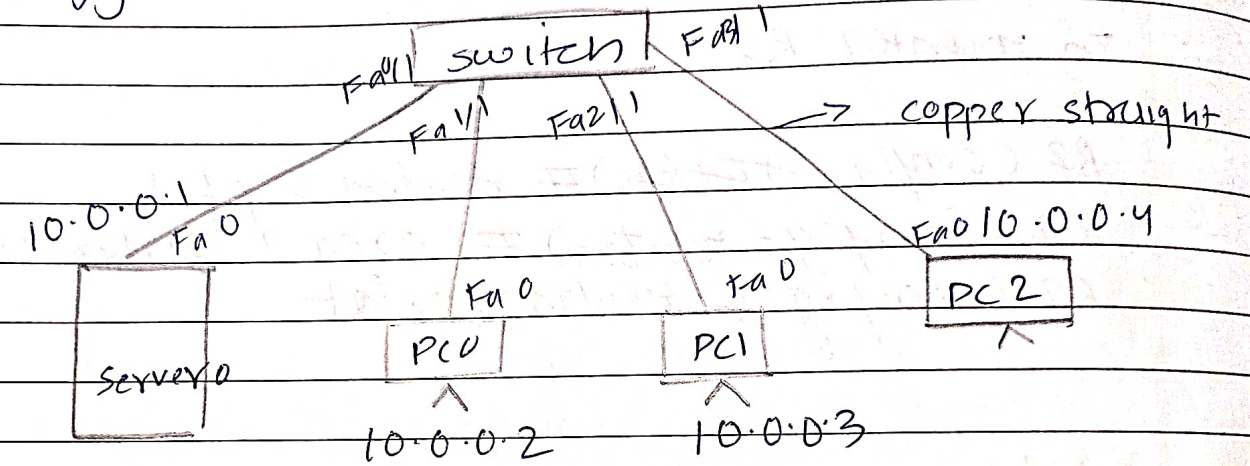
3-7-23

Aim: To construct simple LAN and understand the concept and operation of Address resolution protocol ARP.

Topology:



procedure.

→ Create the topology as show in above figure which consist of 4 PC's as PC0, PC1, PC2, PC4 and a Server, which is connected switch.

→ Give IP address to PC0, PC1, PC2, PC3 as 10.0.0.2, 10.0.0.3, 10.0.0.4 and 10.0.0.5 respectively

→ Give IP address 10.0.0.1 to server.

→ Go to command prompt it initally no entries and type arp -a, it shows no entries for

→ Start pinging from server to other four PC's.
→ Use inspect tool to click on the all four PC and the server and see the changes in ARP Table.

ARP Table for PC4

IP address	Hardware Address	Interface
10.0.0.1	00D0.97CC.2D8E	fastEthernet0
10.0.0.2	0002.4AED.9873	fastEthernet0

ARP Table for PC1

IP address	Hardware Address	Interface
10.0.0.1	00D0.97CC.2D8E	fastEthernet0
10.0.0.1	0002.4AED.9873	fastEthernet0

ARP Table for PC2

IP Address	Hardware Address	Interface
10.0.0.1	00D0.97CC.2D8E	fastEthernet0
10.0.0.2	0002.4AED.9873	fastEthernet0

ARP Table for Server0

IP Address	Hardware Address	Interface
10.0.0.2	0002.4AED.9873	fastEthernet0
10.0.0.3	00D0.BCB7.1401	fastEthernet0
10.0.0.4	00D0.BC4E.B0B7	fastEthernet0
10.0.0.5	0001.978C.3E35	fastEthernet0

10/10

17/8/23 Then use the capture button in the simulation panel and see the changes in ARP.

Observation

1) In the beginning no ARP entries will be found
2) As we start pinging, the entries get added
3) ARP connects an ever changing Internet protocol address to be fixed physical machine address also known as mac address, in local area network.