EXP. NO: 9

DATE: 08-10-24

Classful Subnetting

AIM:

Implementation of subnetting in CISCO Packet tracer simulator.

PROCEDURE:

i) Create the network using switches, router & PC's.

ii) The IP address will be as follows

→ Router R1

* Gigabit Ethernet 0/0: 192.168.1.1
* Gigabit Ethernet 0/1: 192.168.2.1

→ Switch S1

* no IP

→ LAN - 1

* PC0 - IP address : 192.168.1.11
  Gateway : 192.168.1.1
* PC1 - IP address : 192.168.1.12
  Gateway : 192.168.1.1
* PC2 - IP: 192.168.1.13
  Gateway: 192.168.1.1
* PC3 - IP : 192.168.1.14
  Gateway: 192.168.1.1
* PC4 - IP : 192.168.1.15
  Gateway : 192.168.1.1

→ Switch S_2

* No IP

→ LAN-2

* PC 5 - IP: 192.168.2.11

Gateway: 192.168.2.1

* PC 6 - IP: 192.168.2.12

Gateway: 192.168.2.1

* PC 7 - IP: 192.168.2.13

Gateway: 192.168.2.1

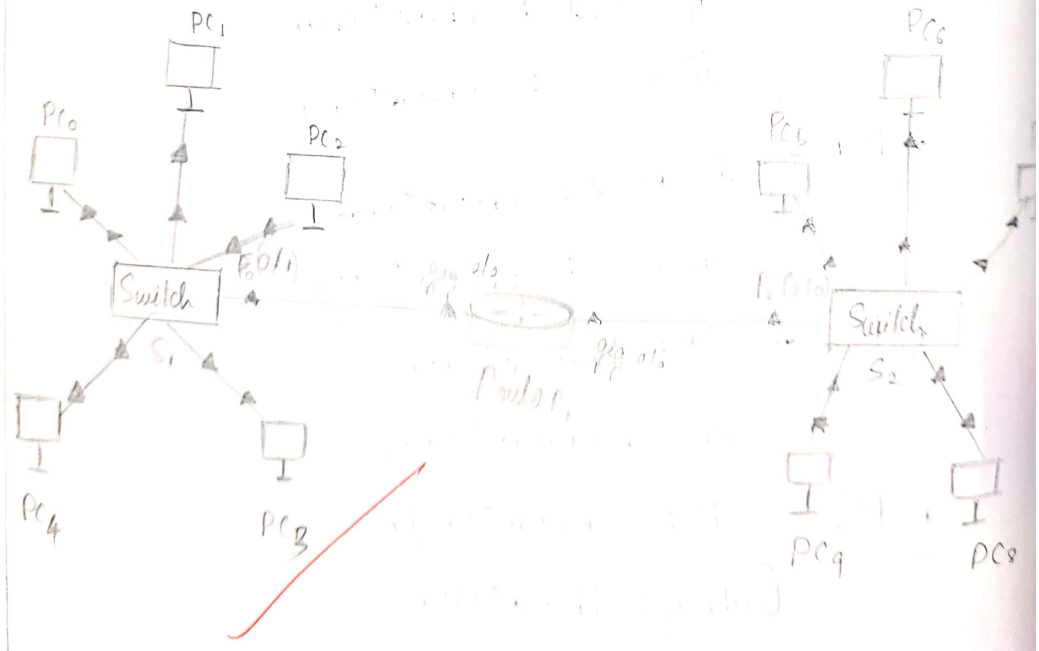
* PC 8 - IP: 192.168.2.14

Gateway: 192.168.2.1

* PC 9 - IP: 192.168.2.15

Gateway: 192.168.2.1

Diagramatic Representation:



OUTPUT:

Now let's assume the sender in PC1 & receiver is PC7 while simulating & observing, we get the simulation panel

Simulation Panel

Event List

VIS	Time	Last device
	0.000	--
	0.003	PC1
	0.005	Switch1
	0.008	Router1
	0.010	Switch2
	0.013	PC9
	0.015	Switch2
	0.018	Router1
	0.020	Switch1
	0.023	--

Reset Simulation ☐ constant delay

Play Controls

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num
👁	Successful	PC1	PC9	ICMP		0.000	N	0

Student Observation:

a) Subnetting is the process of dividing a large IP network a manageable section called subnets. Each subnet acts as independent network.

b) Advantages:

→ Efficient IP management - based on requirement.

→ Reduce Network congestion - limit broadcast traffic to individual subnets.

RESULT:

The implementation of subnetting in CISCO has been done successfully.