

Exp-9

Date: 8-10-24

Classfull Subnetting

AIM

Implementation of Subnetting in Cisco Packet Tracer Simulator

PROCEDURE

1) Create the network using Switches, router and PCs

2) The IP address will be as follows

→ Router R1

* GigabitEthernet 0/0 : 192.168.1.1

* GigabitEthernet 0/1 : 192.168.2.1

→ Switch S1

* NO IP

Also enable the 'on' option for both gig ethernet on the Page

→ LAN-1

• PC1 : 192.168.1.11

• PC2 : 192.168.1.12

• PC 0

IP Address : 192.168.1.11

for Lan 1

Gateway : 192.168.1.1

Gateway is

• PC 1

IP : 192.168.1.12

Gateway : 192.168.1.1

GigabitEthernet 0/0

• PC 2

IP : 192.168.1.13

Gateway : 192.168.1.1

• PC 3

IP : 192.168.1.14

gateway : 192.168.1.1

• PC 4

IP: 192.168.1.15

Gateway: 192.168.1.1

→ Switch S2

* No IP

→ LAN-2

• PC 5

IP: 19

→ ~~Router R1~~

→ Switch S2

* No IP

→ LAN-2

• PC 5

IP address: 192.168.2.11

Gateway: 192.168.2.1

• PC 6

IP address: 192.168.2.12

Gateway: 192.168.2.1

• PC 7

IP address: 192.168.2.13

Gateway: 192.168.2.1

• PC 8

IP address: 192.168.2.14

~~Gateway~~: 192.168.2.1

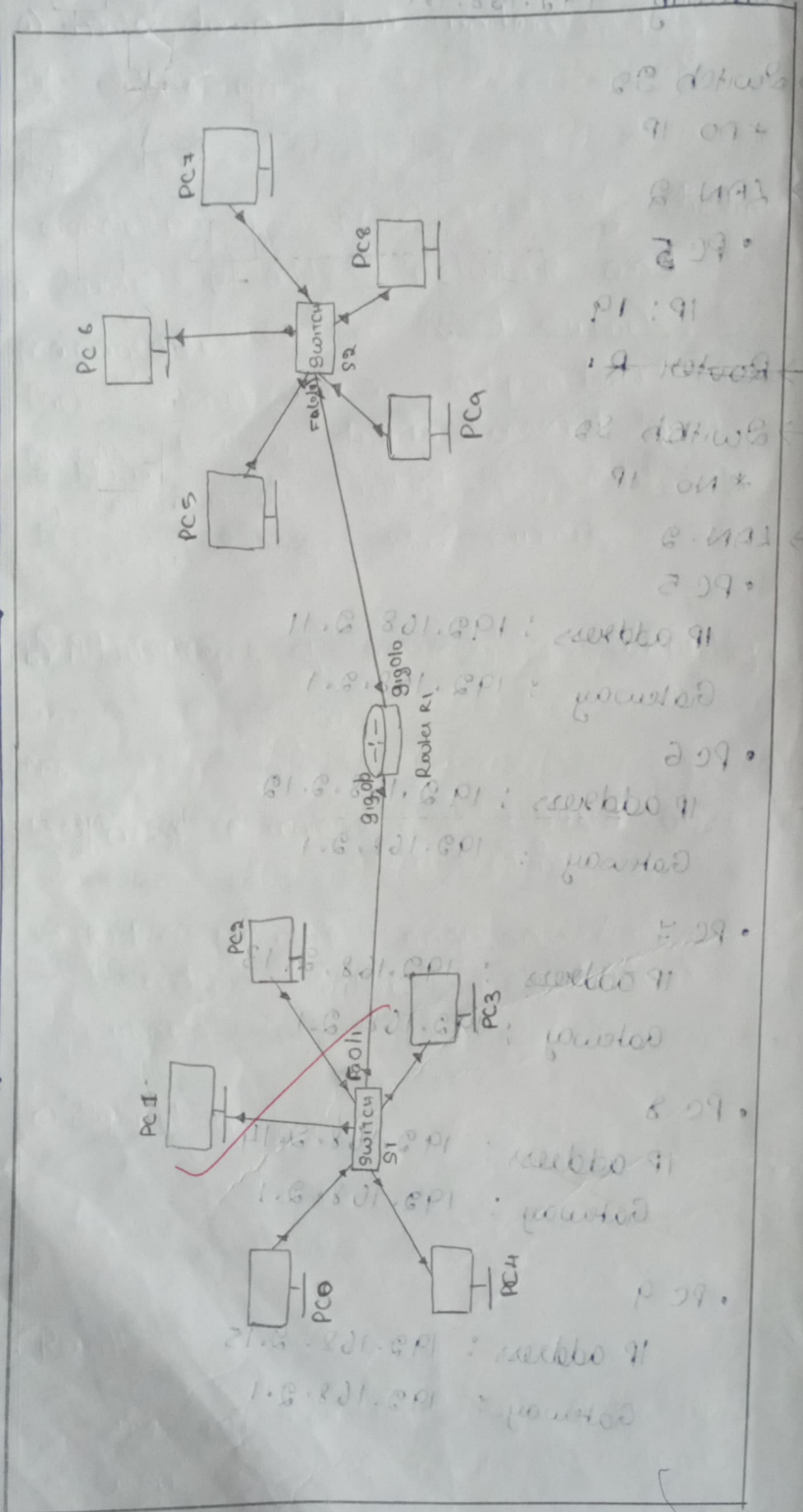
• PC 9

IP address: 192.168.2.15

Gateway: 192.168.2.1

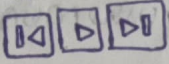
for LAN-2
Gateway of
PCs is
GE 0/1 IP



Diagrammatic Representation



Output

Now let's assume the sender is PC 1 and receiver is PC 9 while simulating & observing, we get the simulation panel.

Simulation Panel		
Event List		
Vis	time	Last device
	0.000	--
	0.003	PC 1
	0.005	Switch 1
	0.008	Router 1
	0.010	Switch 2
	0.013	PC 9
	0.015	Switch 2
	0.018	Router 1
	0.020	Switch 1
	0.023	--
Reset Simulation <input type="checkbox"/> constant delay		
Play Controls		
		

File	Last status	Source	Destination	Type	Color	Time (Sec)	Periodic	nom
	Successful	PC 1	PC 9	icmp		0.000	N	0

Result

Thus implementation of subnetting in Cisco has been implemented successfully. (classful)

Student Observation

a) Write down your understanding of subnetting

Ans

Subnetting is the process of dividing a large IP address network and manageable section called subnets. Each subnet act as independent network & allow devices connected to it to communicate within the subnet & control traffic btw subnet.

b) Advantages of implementing subnetting within a network

Ans

→ efficient IP management - based on requirements

→ Reduce Network Congestion - Limit broadcast traffic in individual subnets

c) ~~Subnetting in Your College?~~

Result

→ The implementation of Subnetting in Cisco has been ~~implemented~~ done successfully