Exp No.: 9 Implementation of Subnetting in cisco Packet Tracer

Aim:

Implementation of subnetting in cisco packets tracer simulator.

Procedure:

1. Create the network using routers, switche and PCs
2. Configure IP address on PCs as follows

Router R1:

Gigabit 0/0 : 192.168.1.1

Gigabit 0/1 : 192.168.2.1

[Enable 'on' option for both gigabit ethernet]

3. Switch S1:

Fast Ethernet 0/1 : 192.168.1.0

PC0 : 192.168.1.11

PC1 : 192.168.1.12

PC2 : 192.168.1.13

PC3 : 192.168.1.14

PC4 : 192.168.1.15

Fast Ethernet 0/2 : 192.168.2.0

PC5 : 192.168.2.11

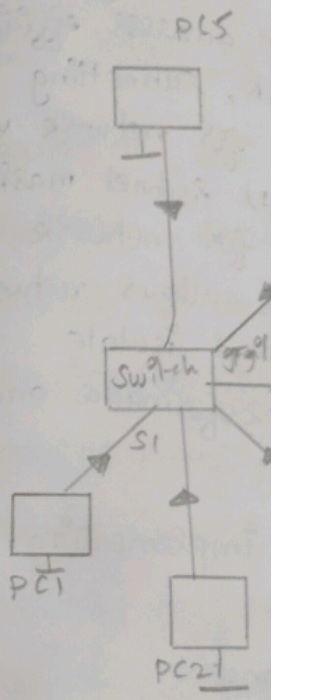
PC6 : 192.168.2.12

PC7 : 192.168.2.13

PC8 : 192.168.2.14

PC9 : 192.168.2.15

Diagramatic Re



Output:

Fire	Last Status
○	Successful

Subnetting

Traces

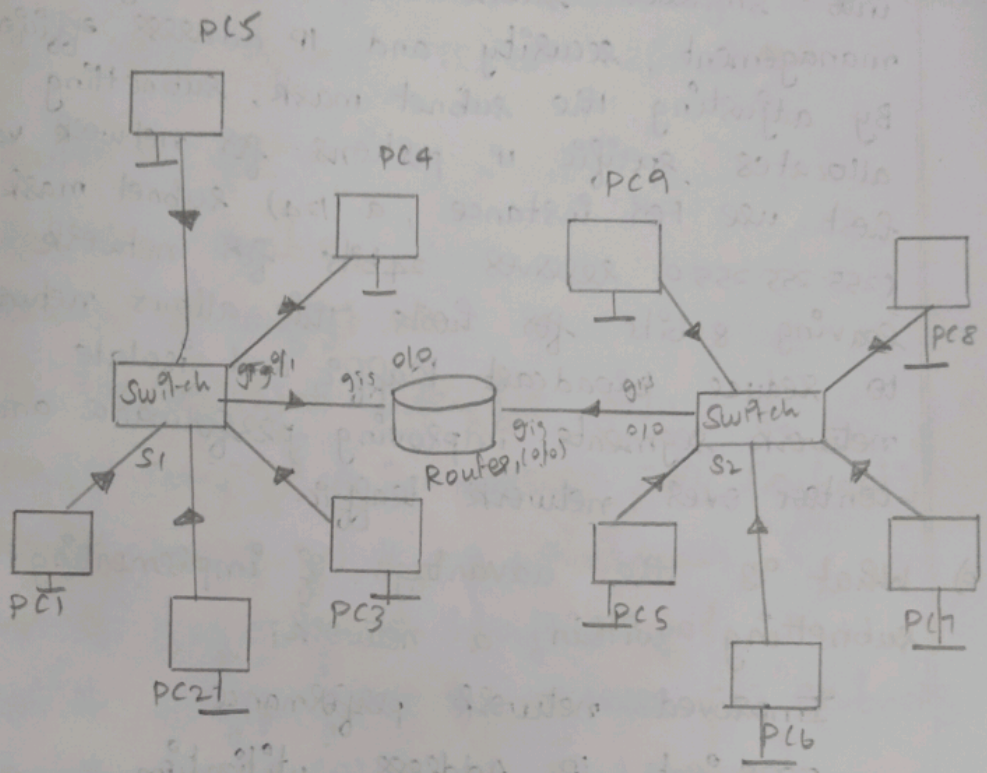
in cisco

routers, switches

PCs as follows:

abit ethernet]

Diagramatic Representation



Output:

Fire	Last Status	Source	Destination	Type	Time	Periodic	Num
●	Successful	PC0	PC7	ICMP	0.000	N	0

Student observation:

a) Write down your understanding of subnetting.

Subnetting divides a large network into smaller subnetworks, enhancing management, security and IP address efficiency. By adjusting the subnet mask, subnetting allocates specific IP portions for network vs host use. For instance, a (/24) subnet mask (255.255.255.0) reserves 24 bits for network, leaving 8 bits for hosts. This allows network to reduce broadcast traffic and isolate network segments, improving performance and control over network traffic.

b) What is the advantage of implementing subnetting within a network?

Improved network performance
Efficient IP Address utilization
Enhanced security
Simplified network management
Reduced collision domains.

Output:

Implementation of subnetting & successfully observed and the output is verified.

EXP NO :10

a) Aim:

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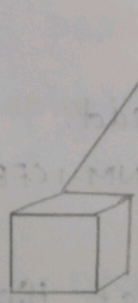

192.168.10.2

255.255.255.

192.168.10.1