Worksheet- 2.3

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Subject Code: 21CSH-256
Subject Name: Computer Networks

1. **Aim:** Configure a network using Distance Vector routing Protocol using Packet Tracer or NS2.

2. **Software required :-** Cisco Packet Tracer.

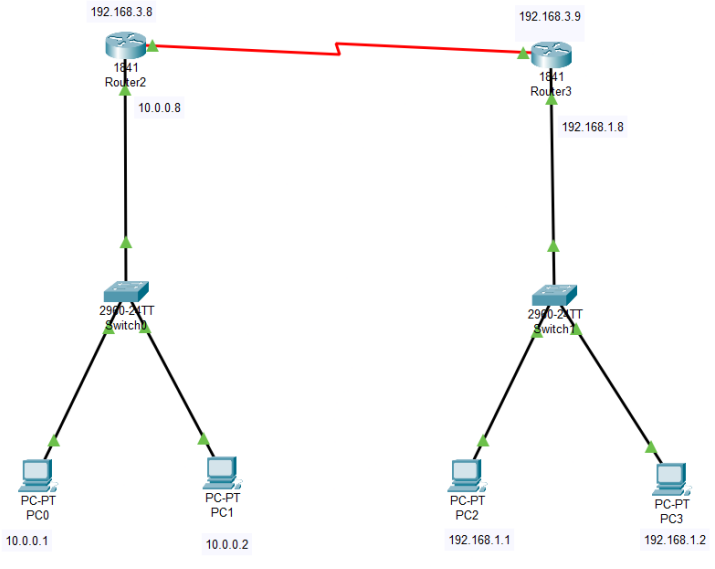
Procedure: -

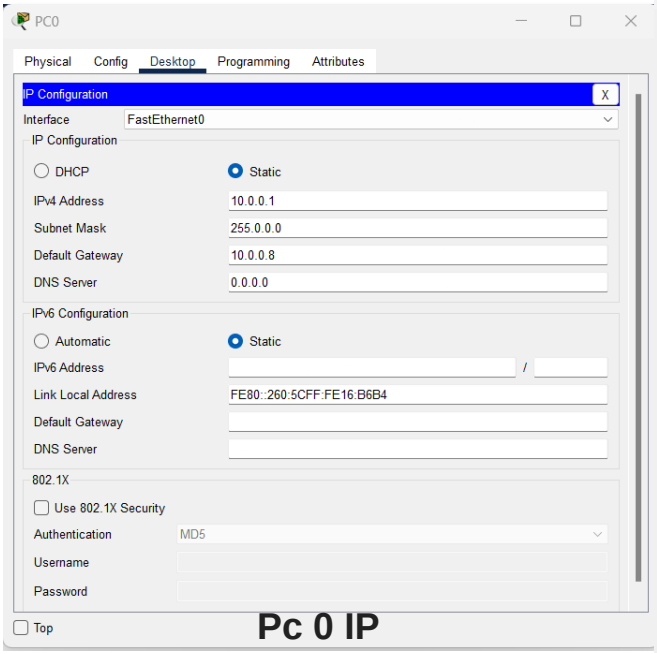
- Attach PC, PT router & Switch in the packet tracer software.
- Use Serial DCE wires to connect router to router.
- Connect all the end devices to each other.
- Assign IP address to devices.
- Select source and destination and drop packet from source to destination.
- Go to Simulation mode and click capture/Play.
- Simulation will start and packet will only be accepted by destination.

Theory: -

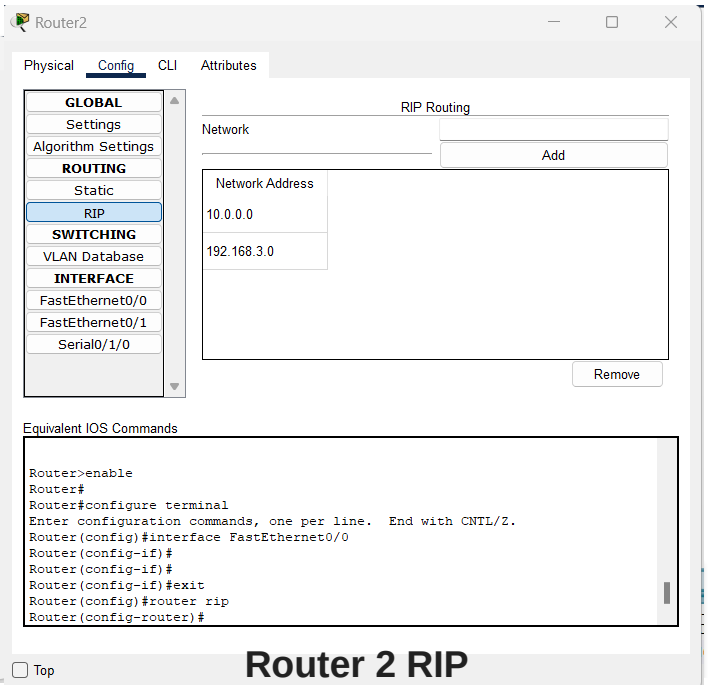
A). **Distance-vector routing (DVR):** The term distance vector refers to the fact that the protocol manipulates vectors (arrays) of distances to other nodes in the network**.** It is a protocol requires that a router inform its neighbors of topology changes periodically Historically known as the old ARPANET routing algorithm (or known as Bellman-Ford algorithm).

Input Screenshot:

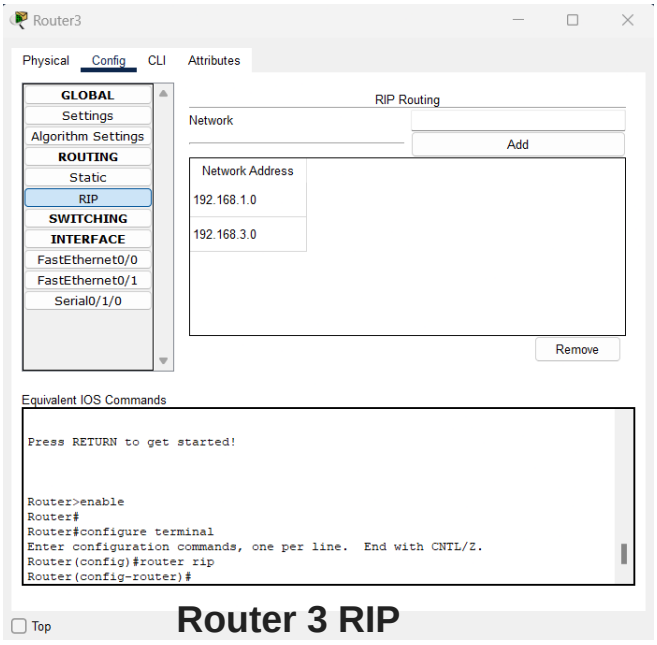




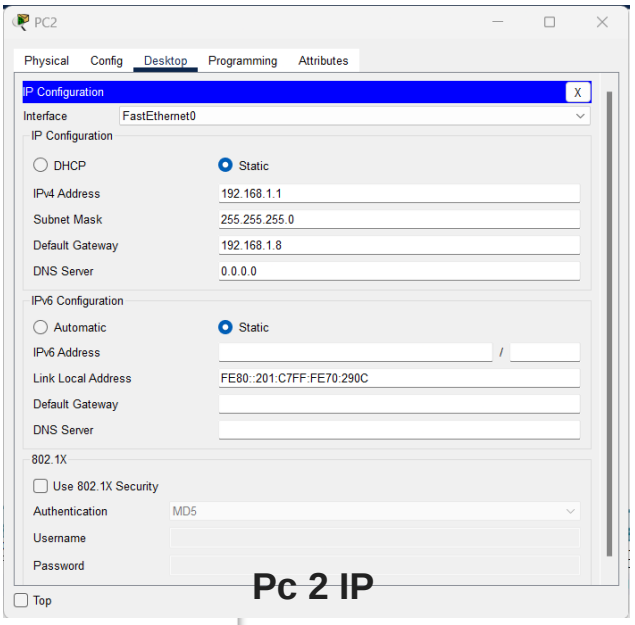
Pc 0 IP



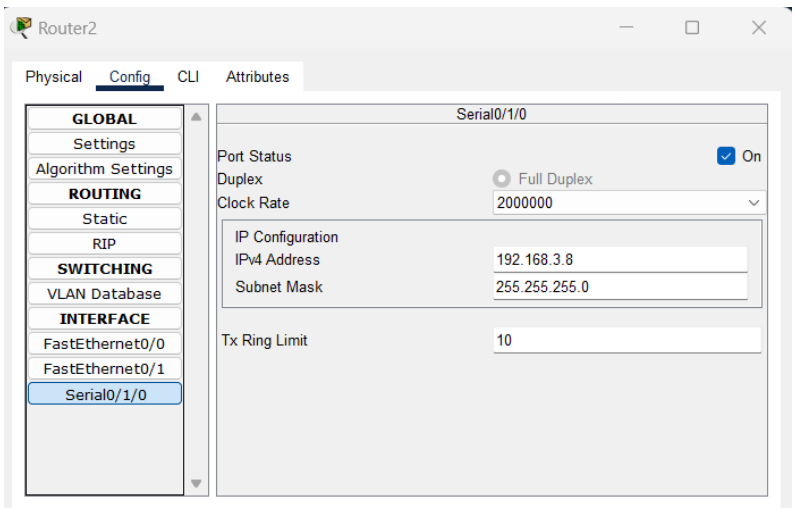
Router 2 RIP



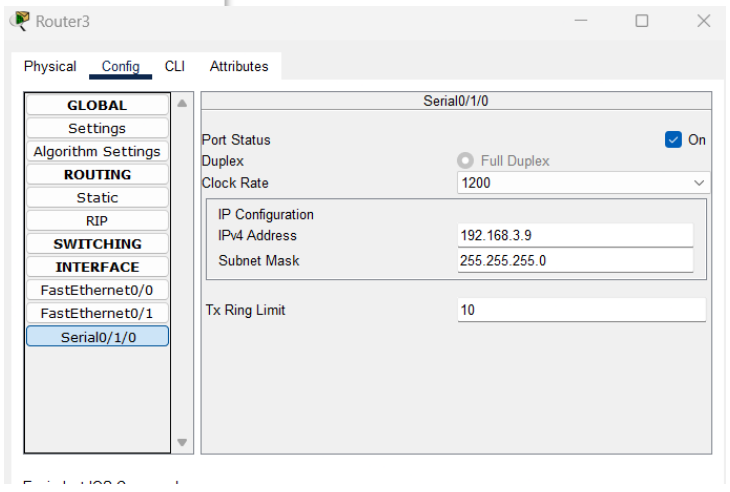
Router 3 RIP



Pc 2 IP

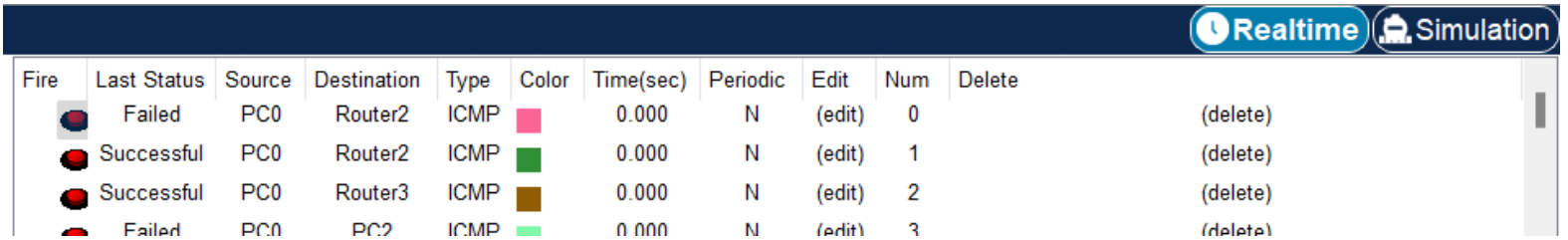


Router 2 IP

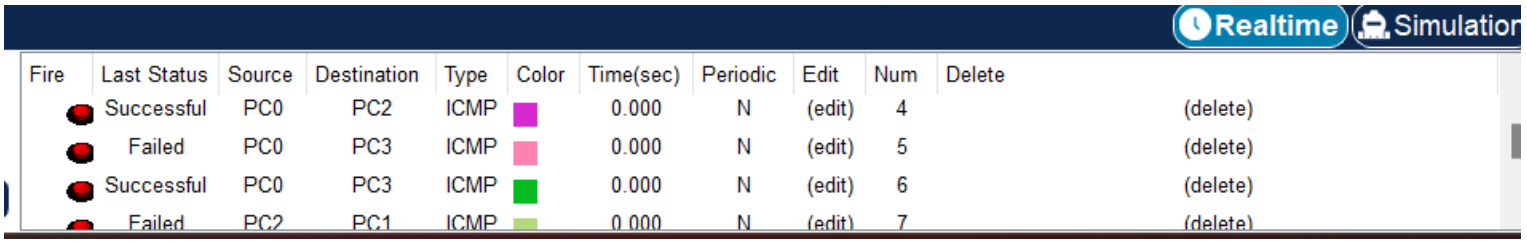


Router 3 IP

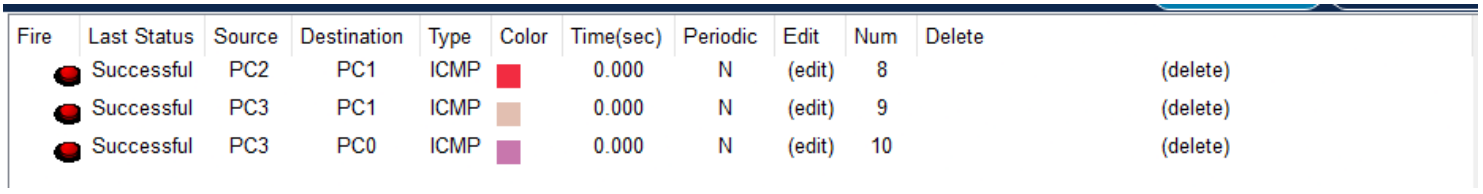
Output Screenshot:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Edit	Num	Delete
	Failed	PC0	Router2	ICMP		0.000	N	(edit)	0	(delete)
	Successful	PC0	Router2	ICMP		0.000	N	(edit)	1	(delete)
	Successful	PC0	Router3	ICMP		0.000	N	(edit)	2	(delete)
	Failed	PC0	PC2	ICMP		0.000	N	(edit)	3	(delete)



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Edit	Num	Delete
	Successful	PC0	PC2	ICMP		0.000	N	(edit)	4	(delete)
	Failed	PC0	PC3	ICMP		0.000	N	(edit)	5	(delete)
	Successful	PC0	PC3	ICMP		0.000	N	(edit)	6	(delete)
	Failed	PC2	PC1	ICMP		0.000	N	(edit)	7	(delete)



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Edit	Num	Delete
	Successful	PC2	PC1	ICMP		0.000	N	(edit)	8	(delete)
	Successful	PC3	PC1	ICMP		0.000	N	(edit)	9	(delete)
	Successful	PC3	PC0	ICMP		0.000	N	(edit)	10	(delete)

Learning Outcomes:

1.) In this experiment, we have used different wire i.e Serial DCE wire to connect router.

2.) We learned about clock rate, serial2/0, serial3/0 and Distance-vector routing (DVR).

3.) We have fined the different distances from nodes with the help of packet tracer.