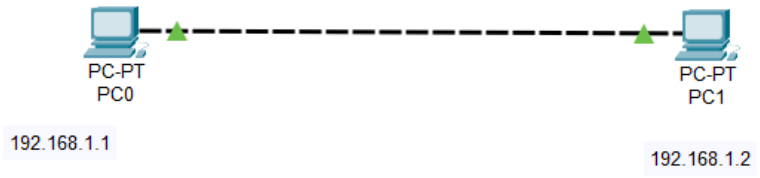
Practical 1. Design and create a simple network using two PCs.

Ans :-> The steps to create a simple network are as follows:

Step-1: Open the Cisco Packet Tracer.

Step-2: Click on the end devices from the bottom left icon menu, Add two PCs into the screen of the simulator.

Step-3: Collect all PCs with default straight cable by selecting it through the cable menu from the bottom left menus in the simulator. Green signal in the wire shows they are ready to communicate.



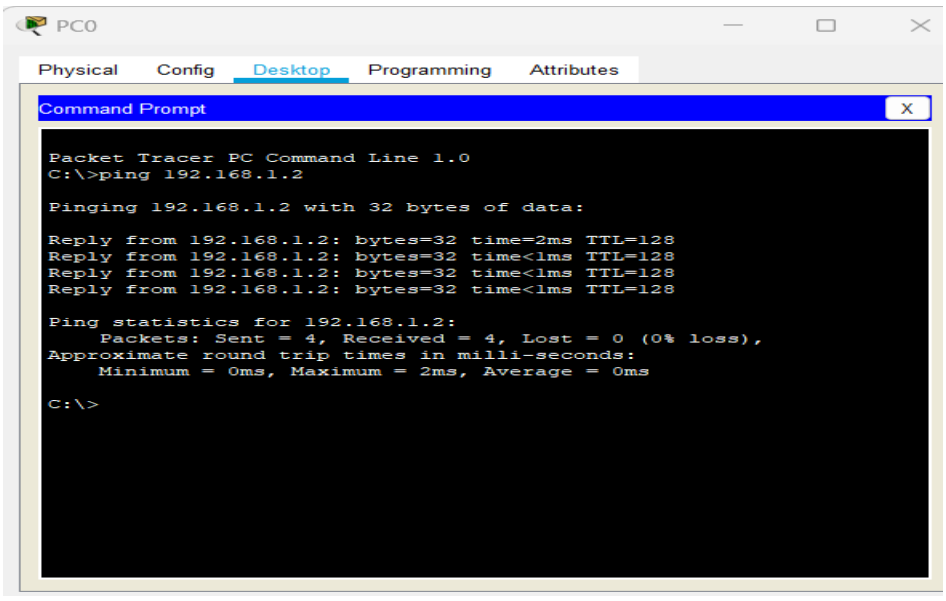
Step-4: Now, we have to give unique IP address to each PC. Click on each PC, go to the Desktop section and then click on IP configuration to give IP address.

IP Address	Subnet Mask
192.168.1.1	255.255.255.0
192.168.1.2	255.255.255.0

Step-5: Click on a PC, go to Desktop and then click on Command prompt.

Step-6: After that test pink command in the command prompt to check the connectivity between these PCs.

For eg: ping 192.168.1.2



Step-7: If ping command works successfully then it means all these PCs are able to communicate and share data between them and we have build our network of two PCs successfully.

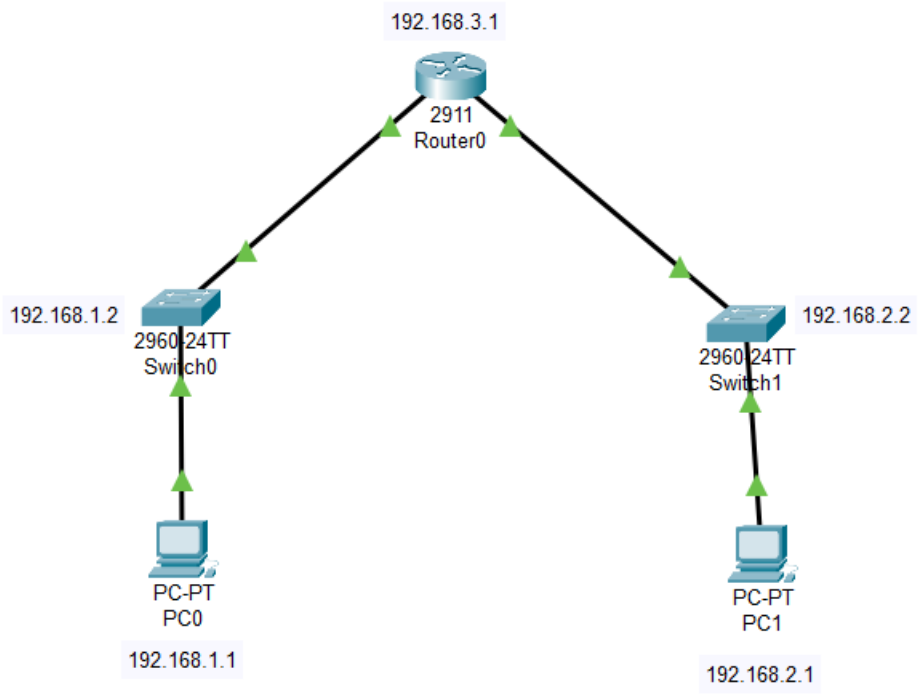
Practical 2. Design and create an internetwork using Router and Switch to connect them.

Ans :-> The steps to create an internetwork are as follows:

Step-1: Open the Cisco Packet Tracer.

Step-2: After opening the Cisco Packet tracer, add a router, 2 switches, 2 PCs.

Step-3: Connect the router with 2 switches and each PC connected with each switch using a default straight cable.



Step-4: Give IP, subnet mask, default gateway to each PC by clicking to Desktop, and then click on IP configuration.

Component	IP Address	Subnet Mask	Default Gateway
PC0	192.168.1.1	255.255.255.0	192.168.1.2
PC1	192.168.2.1	255.255.255.0	192.168.2.2

Step-5: Now, configure the router according to the details given below and then turn on the port status.

GigabitEthernet0/0	192.168.1.2	255.255.255.0
GigabitEthernet0/1	192.168.2.2	255.255.255.0

Step-6: Now the connection in completed and it is ready to transfer file from one PC to another.

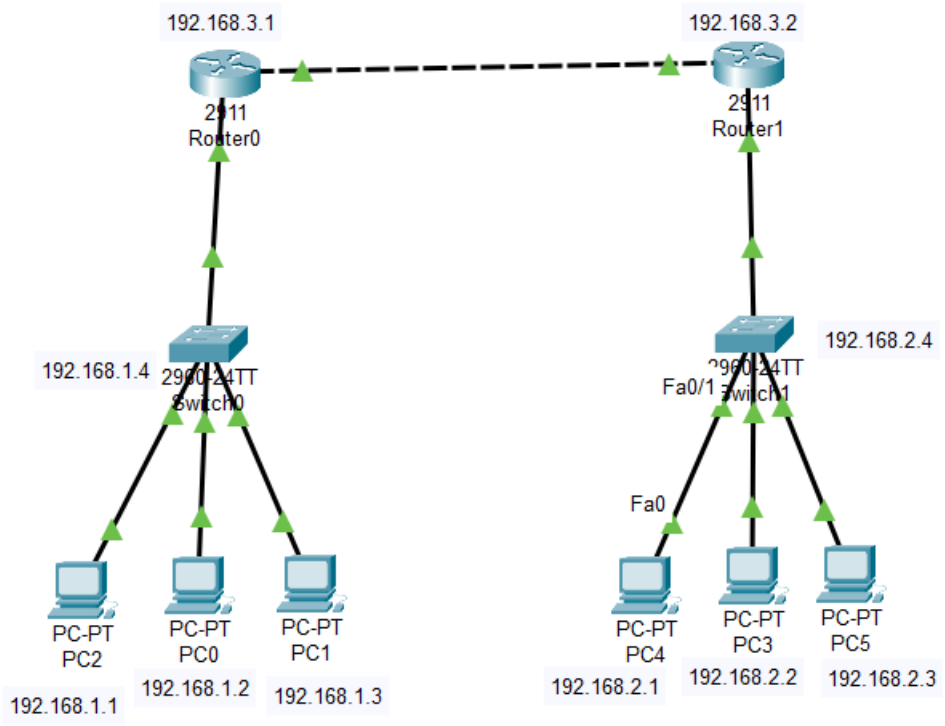
Step-7: To check the connection between the PCs we can do the simple PDU task from one computer to another, if it shows successful then the connection is successfully built between them.

Practical 3: Design and create an internetwork by taking 2 Router, 2 Switch and build a network through Static.

Ans :-> Step-1: Open the Cisco Packet Tracer.

Step-2: After opening the Cisco Packet tracer, add a router, 2 switches, 6 PCs.

Step-3: Connect 2 Router with each other and also with each switch. And each Switch with 3 PCs making it one domain and other switch with other 3 PCs.



Step-4: Give IP, subnet mask, default gateway to each PC by clicking to Desktop, and then click on IP configuration.

Component	IP Address	Subnet Mask	Default Gateway
PC0	192.168.1.1	255.255.255.0	192.168.1.4
PC1	192.168.1.2	255.255.255.0	192.168.1.4
PC2	192.168.1.3	255.255.255.0	192.168.1.4
PC3	192.168.2.1	255.255.255.0	192.168.2.4
PC4	192.168.2.2	255.255.255.0	192.168.2.4
PC5	192.168.2.3	255.255.255.0	192.168.2.4

Step-5: Now, configure the router according to the details given below and then turn on the port status.

GigabitEthernet0/0	Router 0	192.168.1.4	255.255.255.0
GigabitEthernet0/1		192.168.3.1	255.255.255.0
GigabitEthernet0/0	Router 1	192.168.2.4	255.255.255.0
GigabitEthernet0/1		192.168.3.2	255.255.255.0

Step-6: Now we have to build the static network connection by clicking on router then on config and then on static.

Router0	Network	192.168.2.0 (Switch1)
	Mask	255.255.255.0
	Next Hop	192.168.3.2 (Router1's IP address)
Router1	Network	192.168.1.0 (Switch0)
	Mask	255.255.255.0

	Next Hop	192.168.3.1 (Router0's IP address)

Step-7: After adding the network, mask and next hop the connection in completed and it is ready to transfer file from one PC to another.

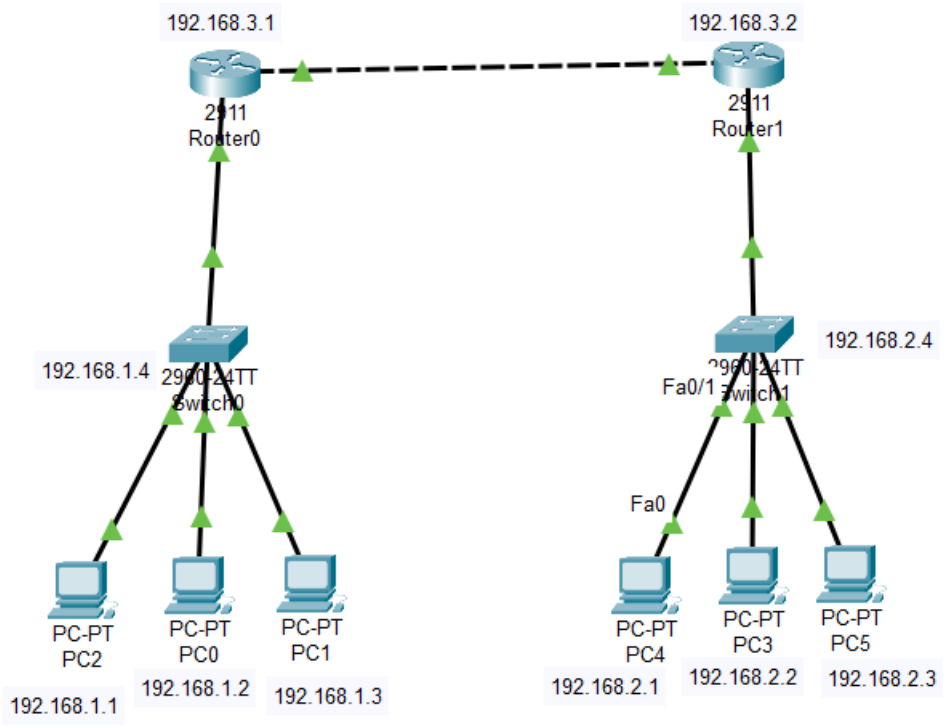
Step-8: To check the connection between the PCs we can do the simple PDU task from one computer to another, if it shows successful then the connection is successfully build between them.

Practical 4: Design and create an internetwork by taking 2 Router, 2 Switch and build a network through Static.

Ans :-> Step-1: Open the Cisco Packet Tracer.

Step-2: After opening the Cisco Packet tracer, add a router, 2 switches, 6 PCs.

Step-3: Connect 2 Router with each other and also with each switch. And each Switch with 3 PCs making it one domain and other switch with other 3 PCs.



Step-4: Give IP, subnet mask, default gateway to each PC by clicking to Desktop, and then click on IP configuration.

Component	IP Address	Subnet Mask	Default Gateway
PC0	192.168.1.1	255.255.255.0	192.168.1.4
PC1	192.168.1.2	255.255.255.0	192.168.1.4
PC2	192.168.1.3	255.255.255.0	192.168.1.4
PC3	192.168.2.1	255.255.255.0	192.168.2.4
PC4	192.168.2.2	255.255.255.0	192.168.2.4
PC5	192.168.2.3	255.255.255.0	192.168.2.4

Step-5: Now, configure the router according to the details given below and then turn on the port status.

GigabitEthernet0/0	Router 0	192.168.1.4	255.255.255.0
GigabitEthernet0/1		192.168.3.1	255.255.255.0
GigabitEthernet0/0	Router 1	192.168.2.4	255.255.255.0
GigabitEthernet0/1		192.168.3.2	255.255.255.0

Step-6: Now we have to build the network connection through RIP by clicking on router, then on config and then on RIP.

Router0	Network Address	192.168.1.0 (Switch0)
		192.168.3.0 (Router1)
Router1	Network Address	192.168.2.0 (Switch1)
		192.168.3.0 (Router0)

Step-7: After adding the network, mask and next hop the connection in completed and it is ready to transfer file from one PC to another.

Step-8: To check the connection between the PCs we can do the simple PDU task from one computer to another, if it shows successful then the connection is successfully built between them.