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DESIGN A SIMPLE TOPOLOGY AND CONFIGURE WITH ONE ROUTER, 2 SWITCHES AND PCS USING CISCO PACKET TRACER

AIM:

To design and configure a simple network topology with **one router, two switches, and multiple PCs** using **Cisco Packet Tracer** for basic communication.

ALGORITHM:

1. Start **Cisco Packet Tracer**.
2. Drag and place **1 Router, 2 Switches**, and **4 PCs**.
3. Connect the devices using **straight-through cables**.
4. Assign **IP addresses** to all PCs and router interfaces.
5. Configure the router interfaces with the given IP addresses and enable them.
6. Save the configuration.
7. **Ping** between PCs to check network connectivity.

CODE:

```
Router>enable
```

```
Router#configure terminal
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#interface gigabitEthernet0/0
```

```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

```
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,  
changed state to up
```

```
exit
```

```
Router(config)#interface gigabitEthernet0/1
```

```
Router(config-if)#ip address 192.168.2.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

```
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1,  
changed state to up
```

```
exit
```

```
Router(config)#exit
```

```
Router#
```

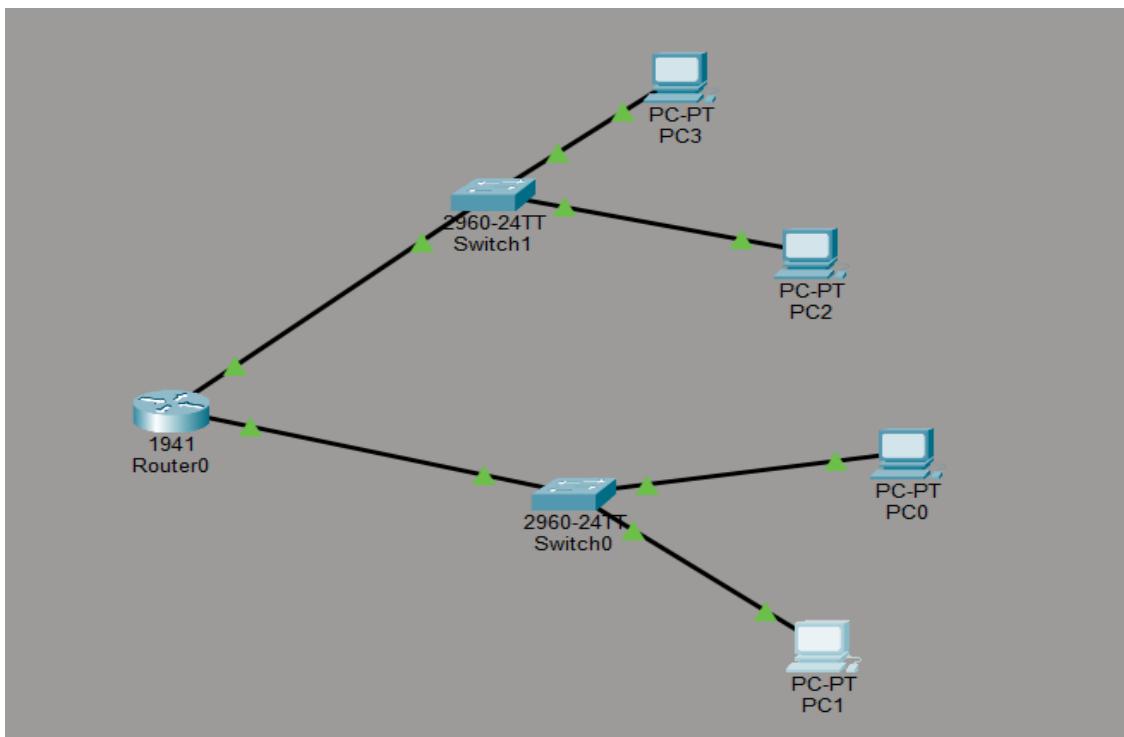
```
%SYS-5-CONFIG_I: Configured from console by console
```

```
write memory
```

```
Building configuration...
```

```
[OK]
```

```
Router#
```



```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.12

Pinging 192.168.10.12 with 32 bytes of data:

Reply from 192.168.10.12: bytes=32 time=8ms TTL=128
Reply from 192.168.10.12: bytes=32 time=11ms TTL=128
Reply from 192.168.10.12: bytes=32 time=8ms TTL=128
Reply from 192.168.10.12: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 6ms

C:\>ping 192.168.20.21
  
```

RESULT:

Thus, the simple topology using router, switches and PCs are made using Cisco Packet Tracer.