Q1: **Building and Testing a Router based Network**

Tasks:

Introduction (devices Connectivity, IP Assigning)

Use a router Switch to connect two PCs
Giving the no shutdown command on interface fastEthernet 0/1
IP assigning on router FastEthernet 0/0:
IP assigning on router fastEthernet 0/1:
Assign gateway IP
IP assigning on PCs on the left side of the network:

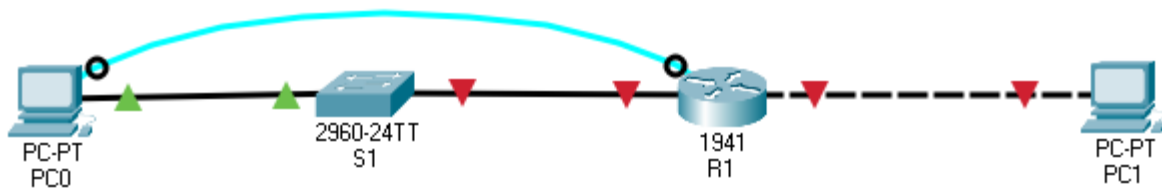IP assigning on PCs on the right side of the network:

Solution:

```
Would you like to enter the initial configuration dialog? [yes/no]: no


Press RETURN to get started!



Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R1
R1(config)#ip domain look-up
                       ^
% Invalid input detected at '^' marker.

R1(config)#no ip domain look-up
                           ^
% Invalid input detected at '^' marker.

R1(config)#no ip domain-lookup
R1(config)#enable secret class
R1(config)#line console 0
R1(config-line)#password cisco
R1(config-line)#login
R1(config-line)#banner motd #unauthorised access is prohibited!#
R1(config)#int g0/0
R1(config-if)#ip address 192.168.0.1 255.255.255.0
R1(config-if)#no shutdown

R1(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
```
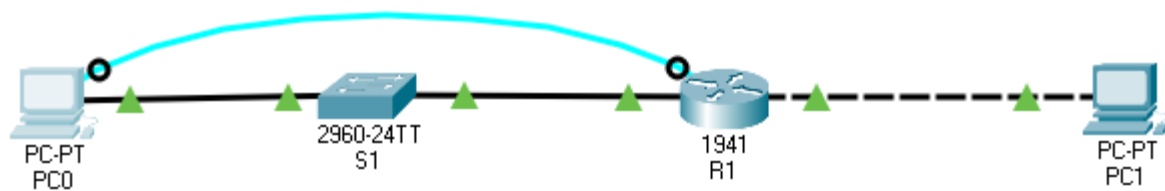
```
R1(config-if)#int g0/1
R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#no shutdown

R1(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

R1(config-if)#int g0/0
R1(config-if)#description Connected to PC1
R1(config-if)#int g0/1
R1(config-if)#description Connected to S1
R1(config-if)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#clock set 10:15:00 12 June 2021
```

```
C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.0.3: bytes=32 time<1ms TTL=127
Reply from 192.168.0.3: bytes=32 time<1ms TTL=127
Reply from 192.168.0.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Reply from 192.168.0.3: bytes=32 time<1ms TTL=127
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Reply from 192.168.0.3: bytes=32 time=1ms TTL=127
Reply from 192.168.0.3: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Testing

- Testing the connection from PC0 to PC3
- Testing the connection from PC7 to PC4
- Testing the connection from PC1 to PC6