Assignment 4: Frame Relay - Value: 10%

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Class day/time:	12/16/2022

Instructions:

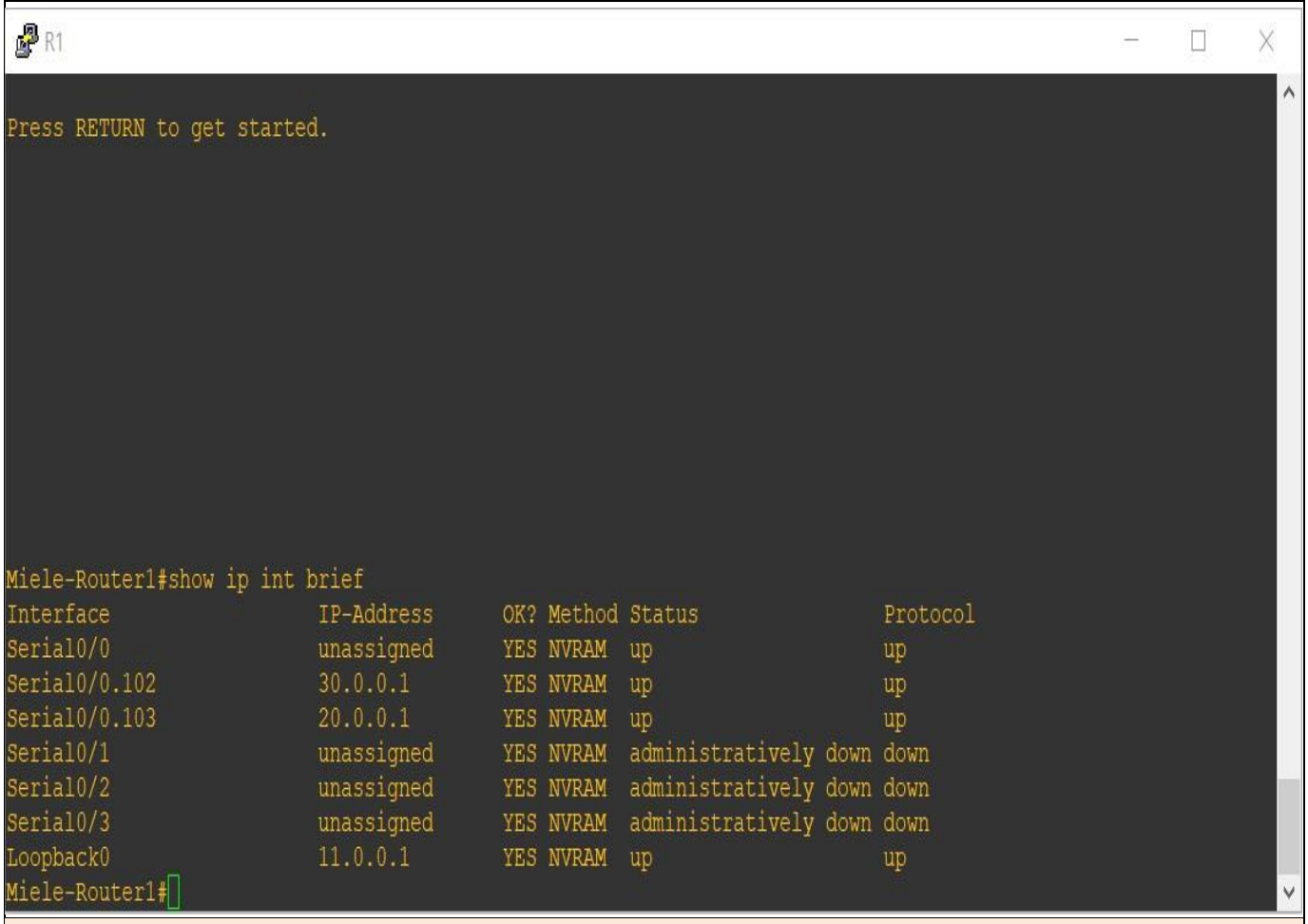
- **IMPORTANT:** The router hostname should be set to **Lastname-RouterX**. So if your last name is Smith and you are setting the hostname for Router2, the hostname should be **Smith-Router2**.
- Use this file to submit yours answers. Take screenshots as instructed below. Crop out any irrelevant parts of the screen (**10% penalty if I can't easily read the output in the screenshot**).
- Submit the file in SLATE before the deadline. **You should submit 2 files**; this Word document, and a ZIP file containing all the files in your GNS3 project.

1. Answer the following questions:

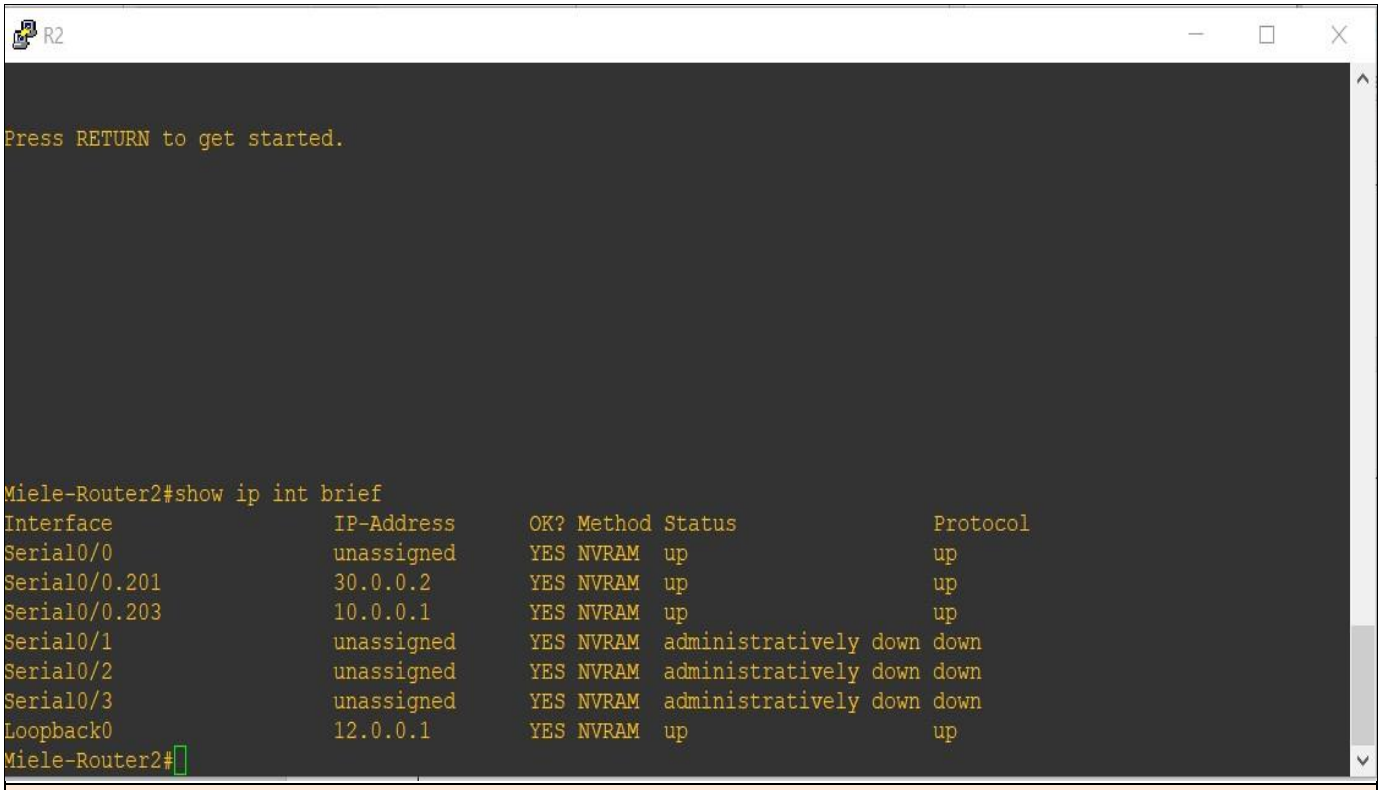
Each router has ___ PVCs.	2

2. For each router, show the output of the **show ip interface brief** command:

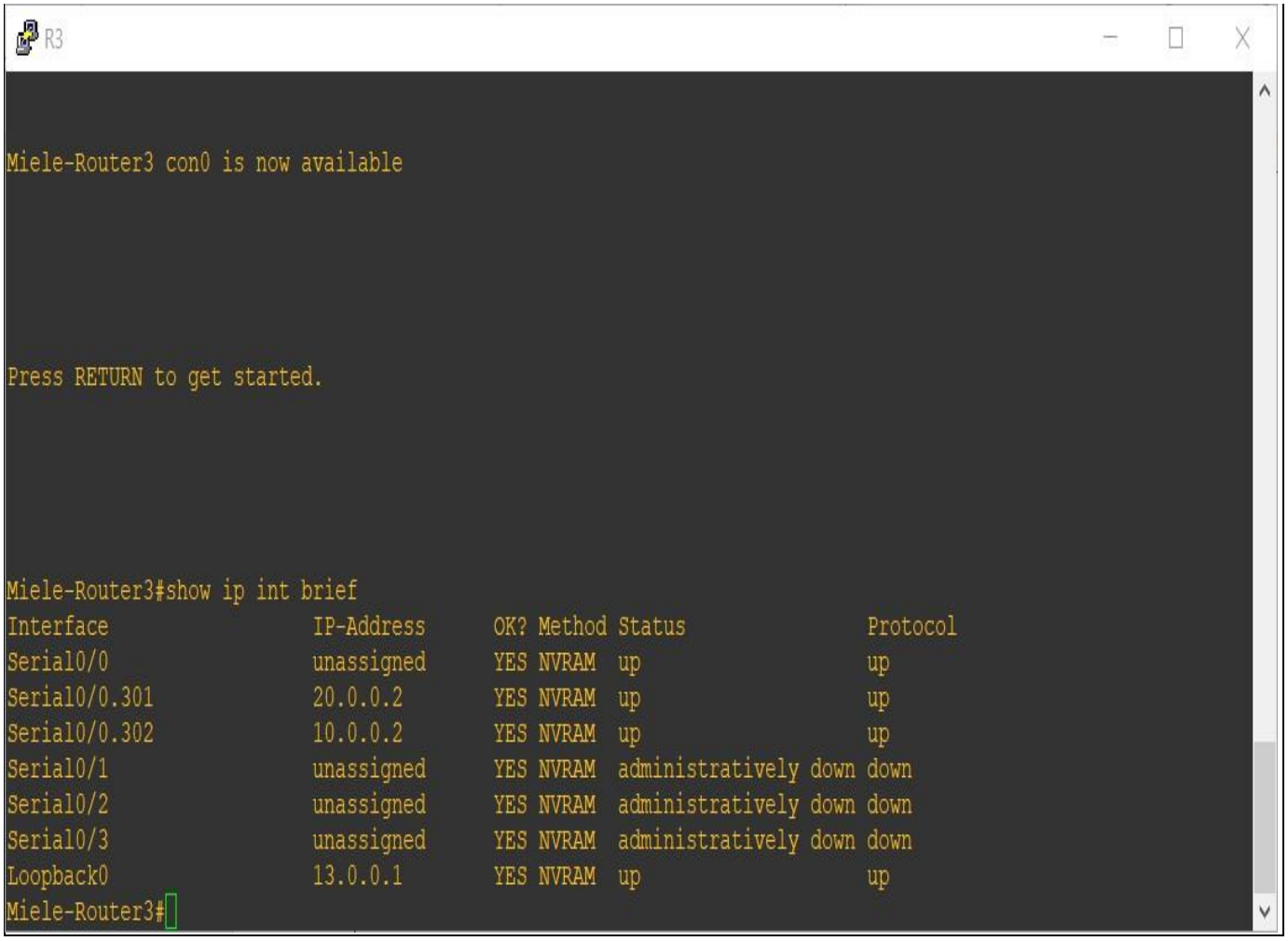
Output from Router1:



Output from Router2:



Output from Router3:



3. For each router, show the output of the **show ip route** command:

Output from Router1:

R1

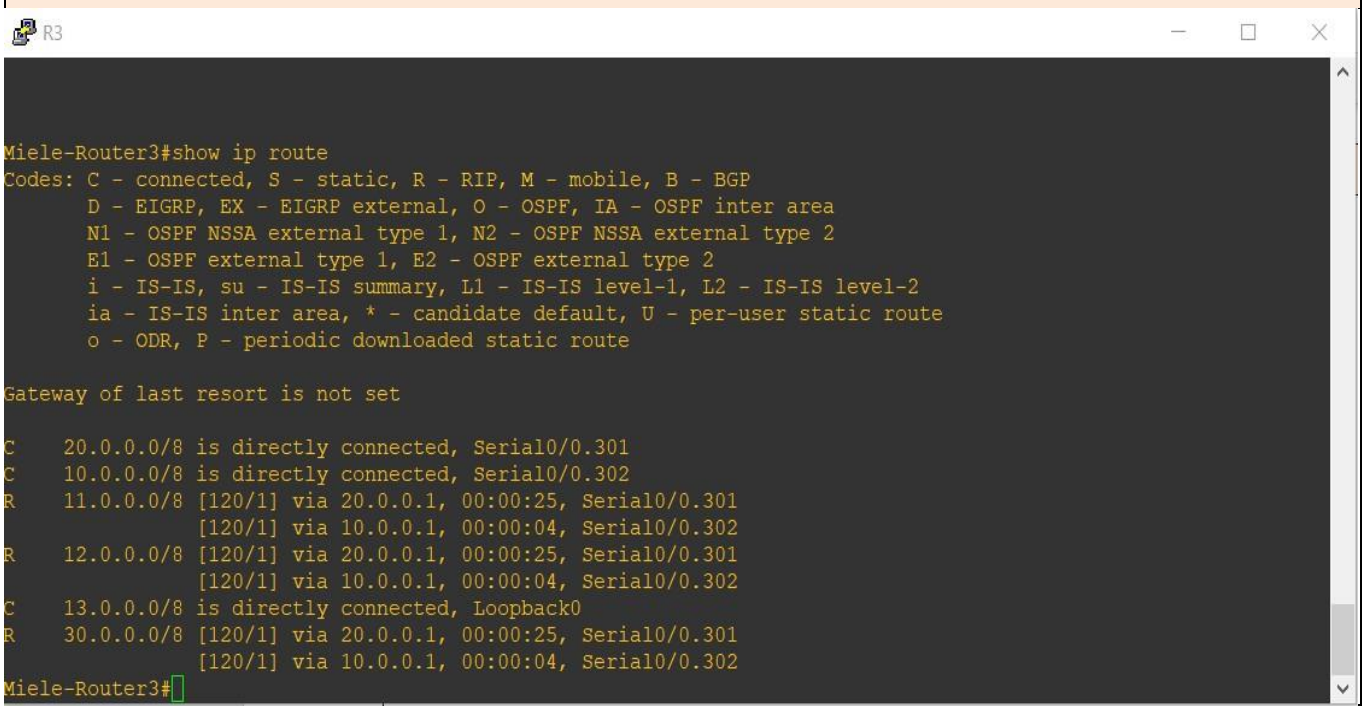
```
Press RETURN to get started.



Miele-Router1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

C    20.0.0.0/8 is directly connected, Serial0/0.103
R    10.0.0.0/8 [120/1] via 30.0.0.2, 00:00:24, Serial0/0.102
                [120/1] via 20.0.0.2, 00:00:03, Serial0/0.103
C    11.0.0.0/8 is directly connected, Loopback0
R    12.0.0.0/8 [120/1] via 30.0.0.2, 00:00:24, Serial0/0.102
R    13.0.0.0/8 [120/1] via 20.0.0.2, 00:00:03, Serial0/0.103
C    30.0.0.0/8 is directly connected, Serial0/0.102
Miele-Router1#
```

Output from Router2:

R2

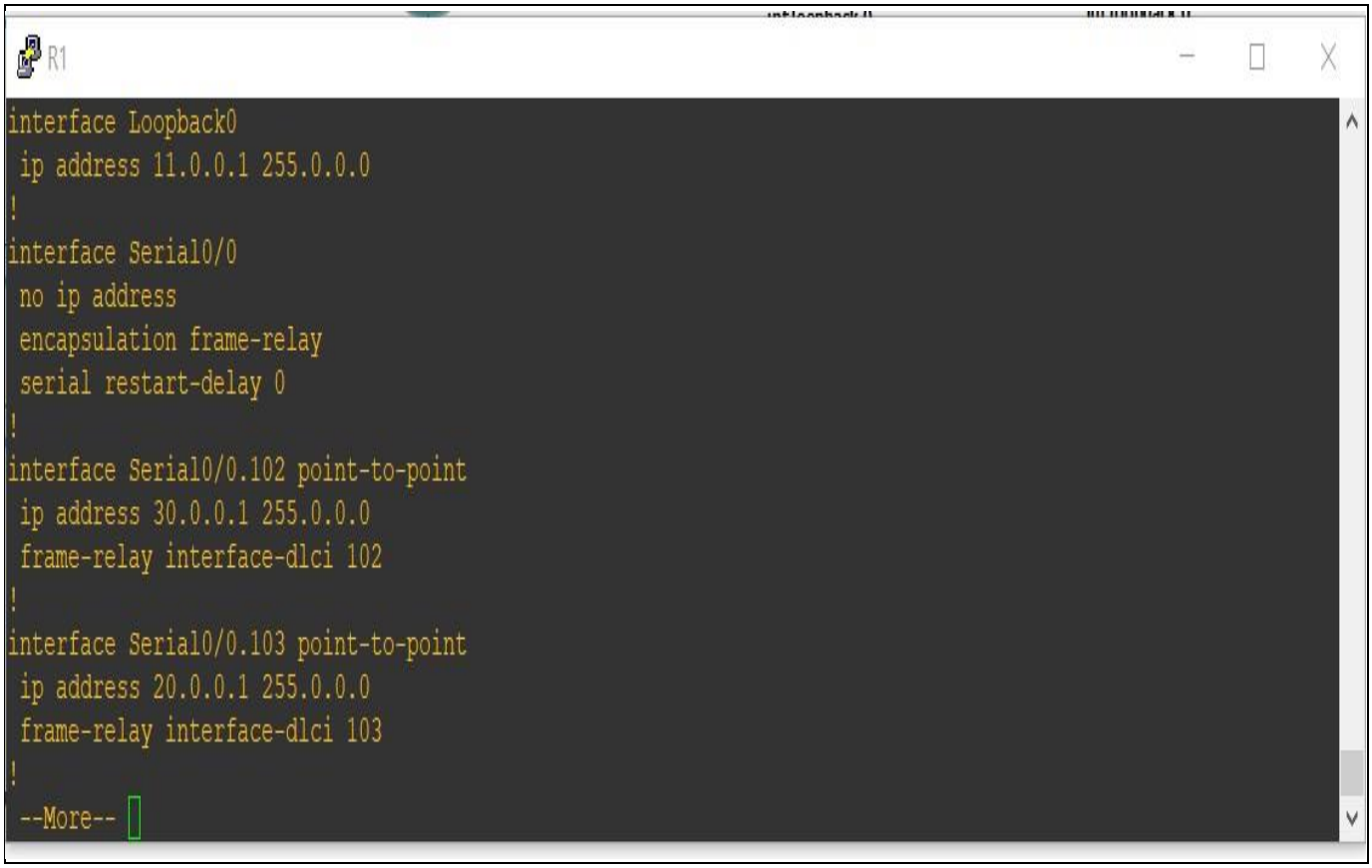
```
Miele-Router2#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

R    20.0.0.0/8 [120/1] via 30.0.0.1, 00:00:06, Serial0/0.201
                [120/1] via 10.0.0.2, 00:00:23, Serial0/0.203
C    10.0.0.0/8 is directly connected, Serial0/0.203
R    11.0.0.0/8 [120/1] via 30.0.0.1, 00:00:06, Serial0/0.201
C    12.0.0.0/8 is directly connected, Loopback0
R    13.0.0.0/8 [120/1] via 30.0.0.1, 00:00:06, Serial0/0.201
                [120/1] via 10.0.0.2, 00:00:24, Serial0/0.203
C    30.0.0.0/8 is directly connected, Serial0/0.201
Miele-Router2#
```

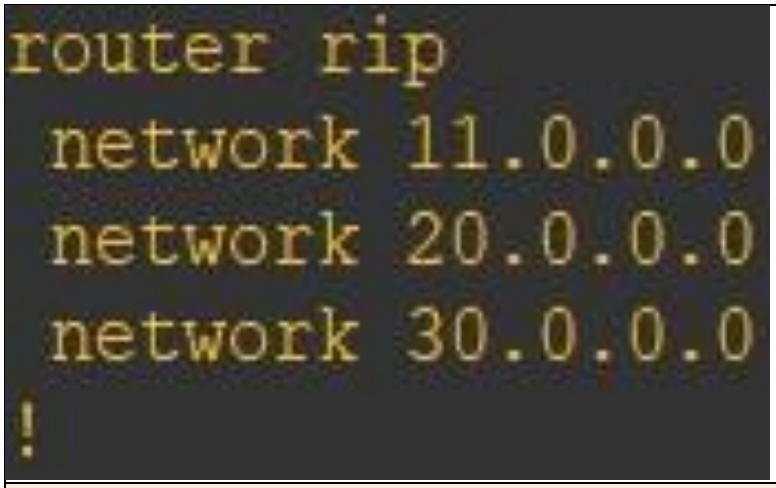
Output from Router3:



4. For each router, run the **show run** command, and take screenshots of the parts showing the **interface configurations** and the part showing the **RIP configuration**. Do not include the rest of the config file. **There will be a 10% penalty if you simply paste a screenshot of the entire config file**.

Output from Router1:

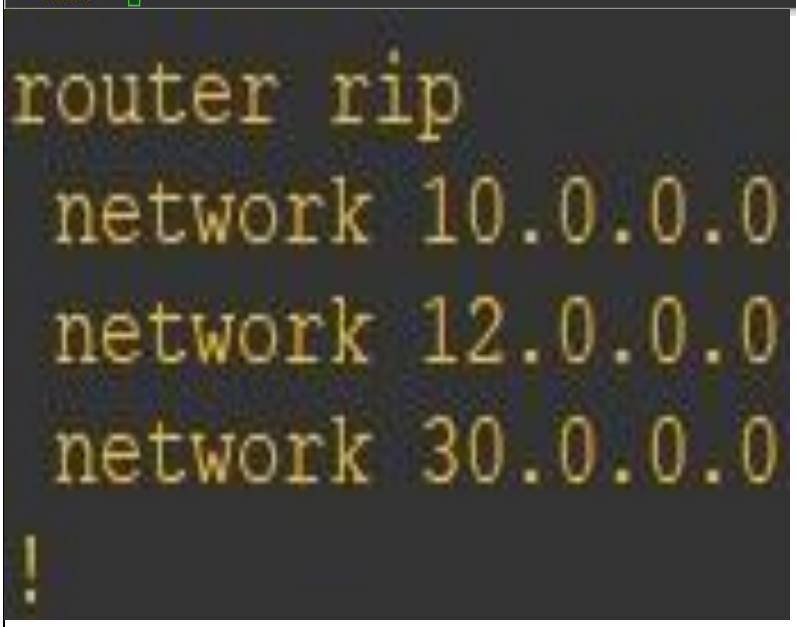




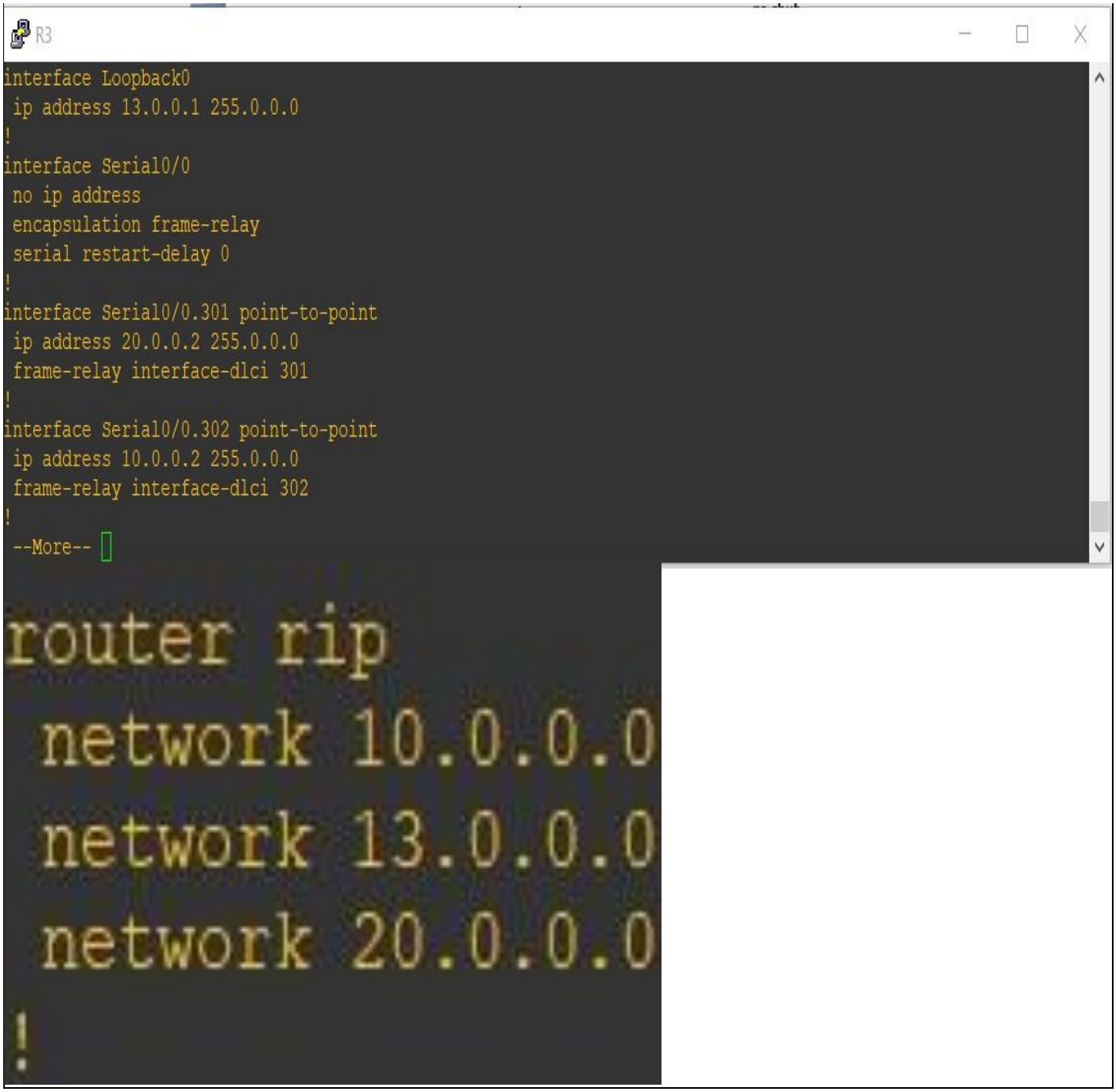
Output from Router2:

R2

```
!
interface Loopback0
 ip address 12.0.0.1 255.0.0.0
!
interface Serial0/0
 no ip address
 encapsulation frame-relay
 serial restart-delay 0
!
interface Serial0/0.201 point-to-point
 ip address 30.0.0.2 255.0.0.0
 frame-relay interface-dlci 201
!
interface Serial0/0.203 point-to-point
 ip address 10.0.0.1 255.0.0.0
 frame-relay interface-dlci 203
!
 --More--
```

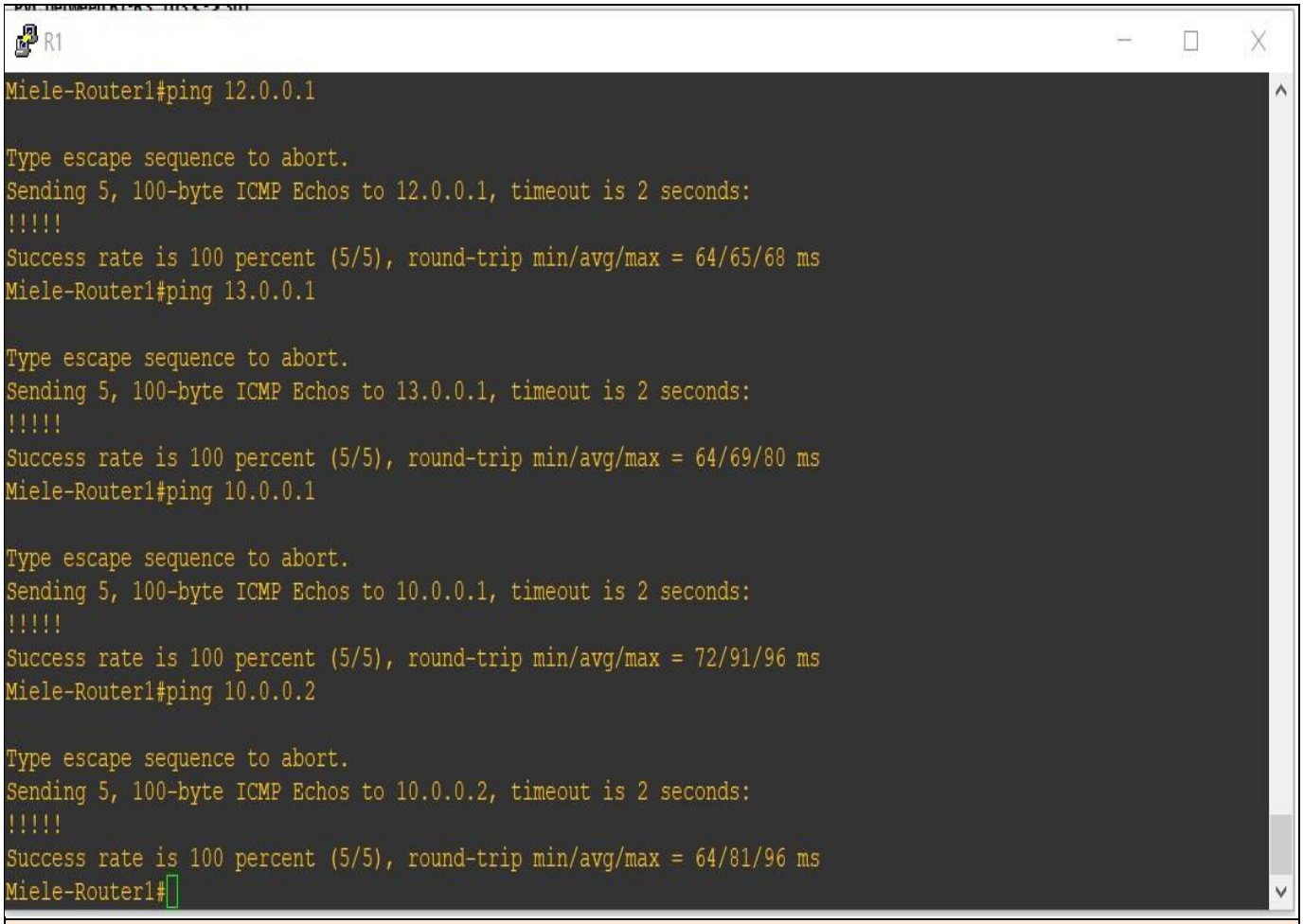


Output from Router3:

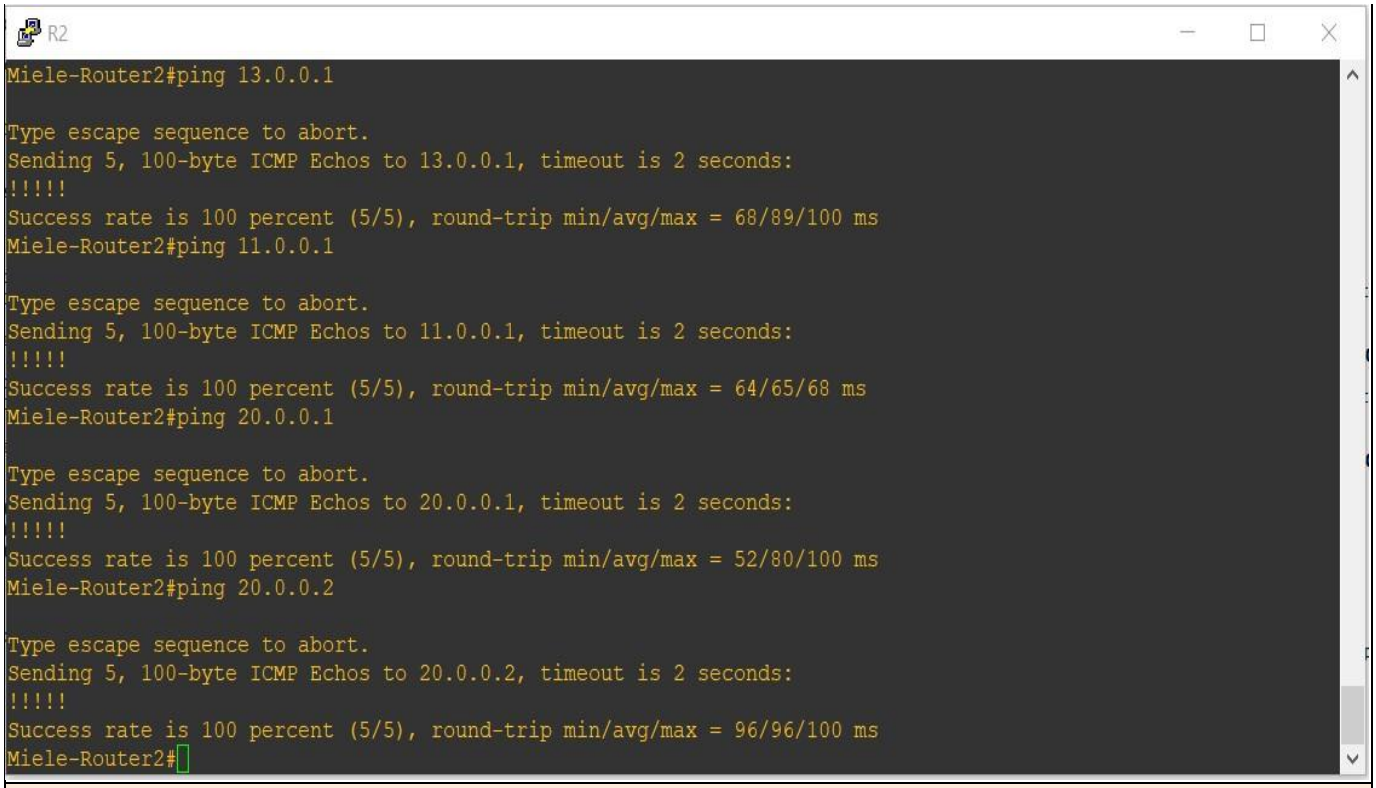


Output from Router1:

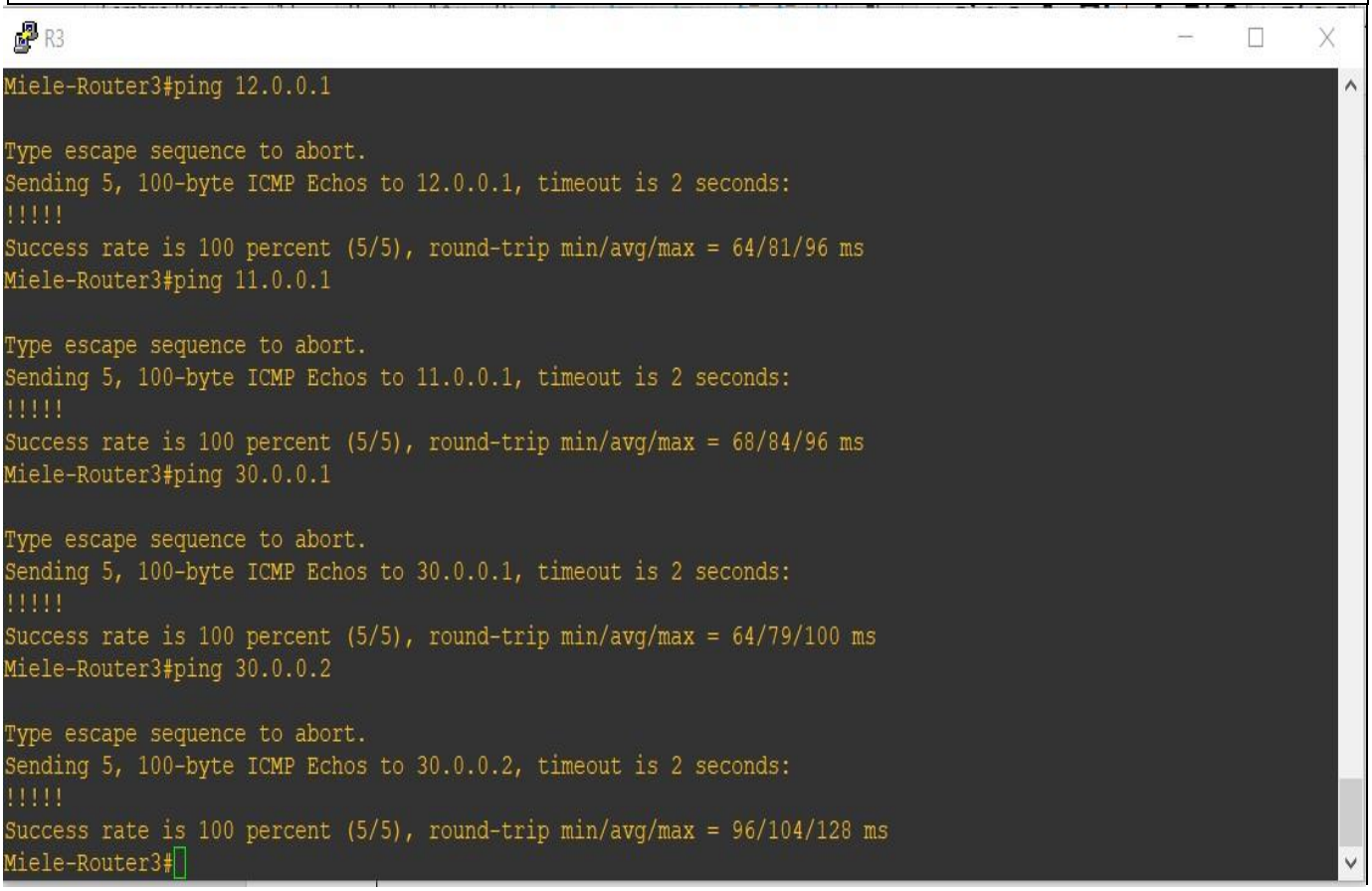
5. From each router, ping all the interfaces on networks that are not directly connected to the router. For example, from Router1 you should ping 12.0.0.1, 13.0.0.1, 10.0.0.1 and 10.0.0.2. Take one screenshot showing the 4 ping results. **There will be a 10% penalty if the screenshot contains irrelevant information**.



Output from Router2:

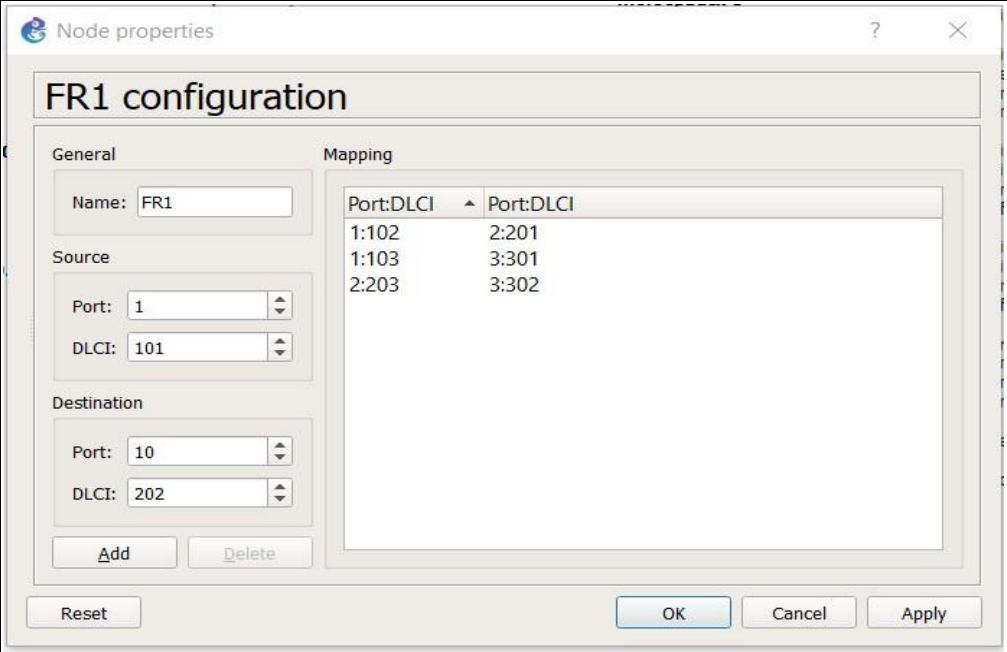


Output from Router3:

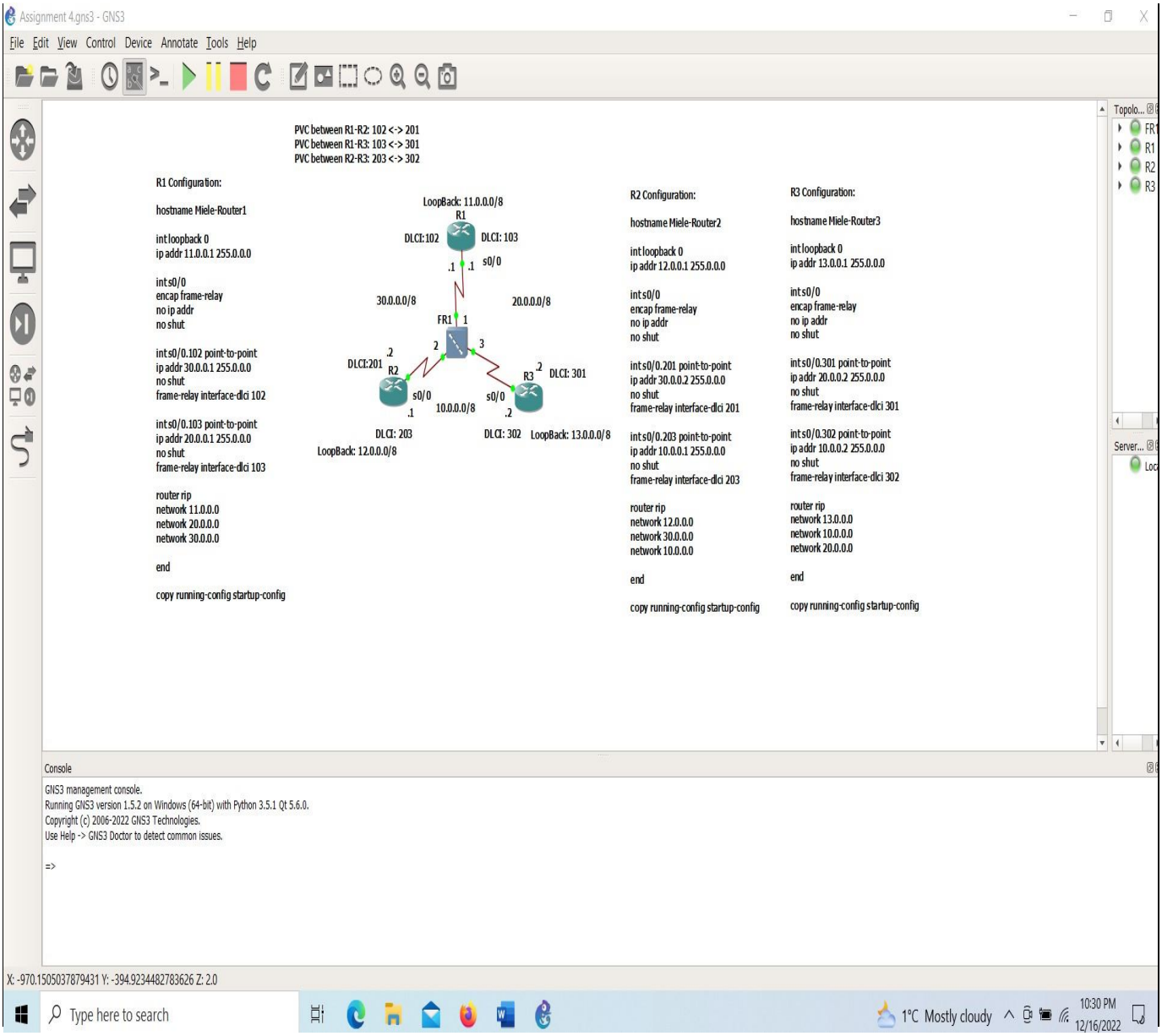


6. Take a screenshot of your frame relay switch mapping table and the GNS3 network topology. Use the screenshot feature in GNS3 (click File, Take a screenshot).

Frame relay switch mapping table:



GNS3 Network Topology:


Assignment 4.gns3 - GNS3
File Edit View Control Device Annotate Tools Help
PVC between R1-R2: 102 <-> 201
PVC between R1-R3: 103 <-> 301
PVC between R2-R3: 203 <-> 302
R1 Configuration:
hostname Miele-Router1
int loopback 0
ip addr 11.0.0.1 255.0.0.0
int s0/0
encap frame-relay
no ip addr
no shut
int s0/0.102 point-to-point
ip addr 30.0.0.1 255.0.0.0
no shut
frame-relay interface-dlci 102
int s0/0.103 point-to-point
ip addr 20.0.0.1 255.0.0.0
no shut
frame-relay interface-dlci 103
router rip
network 11.0.0.0
network 20.0.0.0
network 30.0.0.0
end
copy running-config startup-config
LoopBack: 11.0.0.0/8
R1
DLCI:102
DLCI: 103
.1
.1
s0/0
30.0.0.0/8
20.0.0.0/8
FR1
1
2
3
.2
DLCI:201
R2
R3
.2
DLCI: 301
s0/0
s0/0
.1
10.0.0.0/8
.2
DLCI: 203
DLCI: 302
LoopBack: 13.0.0.0/8
LoopBack: 12.0.0.0/8
R2 Configuration:
hostname Miele-Router2
int loopback 0
ip addr 12.0.0.1 255.0.0.0
int s0/0
encap frame-relay
no ip addr
no shut
int s0/0.201 point-to-point
ip addr 30.0.0.2 255.0.0.0
no shut
frame-relay interface-dlci 201
int s0/0.203 point-to-point
ip addr 10.0.0.1 255.0.0.0
no shut
frame-relay interface-dlci 203
router rip
network 12.0.0.0
network 30.0.0.0
network 10.0.0.0
end
copy running-config startup-config
R3 Configuration:
hostname Miele-Router3
int loopback 0
ip addr 13.0.0.1 255.0.0.0
int s0/0
encap frame-relay
no ip addr
no shut
int s0/0.301 point-to-point
ip addr 20.0.0.2 255.0.0.0
no shut
frame-relay interface-dlci 301
int s0/0.302 point-to-point
ip addr 10.0.0.2 255.0.0.0
no shut
frame-relay interface-dlci 302
router rip
network 13.0.0.0
network 10.0.0.0
network 20.0.0.0
end
copy running-config startup-config
Topolo...
FR1
R1
R2
R3
Server...
Console
GNS3 management console.
Running GNS3 version 1.5.2 on Windows (64-bit) with Python 3.5.1 Qt 5.6.0.
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Use Help -> GNS3 Doctor to detect common issues.
=>
X: -970.1505037879431 Y: -394.9234482783626 Z: 2.0
Type here to search
1°C Mostly cloudy
10:30 PM
12/16/2022