Top screenshot — Word document "2.2 Lab - CLI Automation with Python using netmiko..." with Administrator Command Prompt:

```
Microsoft Windows [Versión 10.0.17763.107]
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C:\Windows\system32>pip install netmiko
Collecting netmiko
  Obtaining dependency information for netmiko from https://files.pythonhosted.org/packages/a8/4c/504be61a9f24e1971807d7
8a796db45e0580eb237c9563b1637ba819a4cf/netmiko-4.3.0-py3-none-any.whl.metadata
  Downloading netmiko-4.3.0-py3-none-any.whl.metadata (7.6 kB)
Collecting ntc-templates>=2.0.0 (from netmiko)
  Obtaining dependency information for ntc-templates>=2.0.0 from https://files.pythonhosted.org/packages/bd/53/588dad953
2da51e7d52cc5e1cebf624a1a83b03e90661b6e2a6f215b8c5f/ntc_templates-4.0.1-py3-none-any.whl.metadata
  Downloading ntc_templates-4.0.1-py3-none-any.whl.metadata (3.9 kB)
Collecting paramiko>=2.9.5 (from netmiko)
  Obtaining dependency information for paramiko>=2.9.5 from https://files.pythonhosted.org/packages/bb/8f/3cef65d3fe76e5
9f320405027d594a0332e44852fef722f0ee4e81e2e7e3/paramiko-3.3.1-py3-none-any.whl.metadata
  Downloading paramiko-3.3.1-py3-none-any.whl.metadata (4.4 kB)
Collecting pyserial>=3.3 (from netmiko)
  Downloading pyserial-3.5-py2.py3-none-any.whl (90 kB)
     ---------------------------------------- 90.6/90.6 kB 573.9 kB/s eta 0:00:00
Collecting pyyaml>=5.3 (from netmiko)
  Obtaining dependency information for pyyaml>=5.3 from https://files.pythonhosted.org/packages/2b/9f/fbade56564ad486809
c27b322d0f7e6a89c01f6b4fe208402e90d4443a99/PyYAML-6.0.1-cp312-cp312-win_amd64.whl.metadata
  Downloading PyYAML-6.0.1-cp312-cp312-win_amd64.whl.metadata (2.1 kB)
Collecting scp>=0.13.6 (from netmiko)
  Downloading scp-0.14.5-py2.py3-none-any.whl (8.7 kB)
Collecting textfsm>=1.1.3 (from netmiko)
  Downloading textfsm-1.1.3-py2.py3-none-any.whl (44 kB)
     ---------------------------------------- 44.7/44.7 kB 732.4 kB/s eta 0:00:00
```


Bottom screenshot — DevNet Sandbox with cmd.exe:

```
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D:\unidad3>code .

D:\unidad3>
```

Catalyst 8000v Credentials

host	port
10.10.20.48	22
10.10.20.48	830
10.10.20.48	443

Developer Box Credentials

host	port
10.10.20.50	22
localhost	2222

IOS XRv 9K Credentials

```python
1   #Bryan Adrian Reyes Ibarra
2   #24 de noviembre del 2023
3   #Lab 2.2
4
5   from netmiko import ConnectHandler
6
7   sshCli = ConnectHandler(
8           device_type='cisco_ios',
9           host='10.10.20.48',
10          port=22,
11          username='developer',
12          password='C1sco12345'
13          )
14
15  output = sshCli.send_command("show ip int brief")
16  print("show ip int brief:\n{}\n".format(output))
```



```python
6
7   sshCli = ConnectHandler(
8           device_type='cisco_ios',
9           host='10.10.20.48',
10          port=22,
11          username='developer',
12          password='C1sco12345'
13          )
14
15  output = sshCli.send_command("show ip int brief")
16  print("show ip int brief:\n{}\n".format(output))
```

```
Windows PowerShell
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PS D:\unidad3> & C:/Users/LAB03-01/AppData/Local/Programs/Python/Python312/python.exe d:/unidad3/reyes.py
show ip int brief:
Interface            IP-Address      OK? Method Status                Protocol
GigabitEthernet1     10.10.20.48     YES NVRAM  up                    up
GigabitEthernet2     unassigned      YES NVRAM  administratively down down
GigabitEthernet3     unassigned      YES NVRAM  administratively down down
Loopback0            10.0.0.1        YES NVRAM  up                    up
Loopback10           unassigned      YES unset  up                    up
Loopback109          10.255.255.9    YES NVRAM  up                    up
```

```python
#Bryan Adrian Reyes Ibarra
#24 de noviembre del 2023
#Lab 2.2
from netmiko import ConnectHandler

sshCli = ConnectHandler(
        device_type='cisco_ios',
        host='10.10.20.48',
        port=22,
        username='developer',
        password='C1sco12345'
        )

output = sshCli.send_command("show ip int brief")
print("show ip int brief:\n{}\n".format(output))

config_commands = [
    'int loopback 1',
    'ip address 2.2.2.2 255.255.255.0',
    'description WHATEVER'
    ]

output = sshCli.send_config_set(config_commands)
```

```
[Running] python -u "d:\unidad3\reyes.py"
show ip int brief:
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet1       10.10.20.48     YES NVRAM  up                    up
GigabitEthernet2       unassigned      YES NVRAM  administratively down down
GigabitEthernet3       unassigned      YES NVRAM  administratively down down
Loopback0              10.0.0.1        YES NVRAM  up                    up
Loopback1              2.2.2.2         YES manual up                    up
Loopback10             unassigned      YES unset  up                    up
Loopback109            10.255.255.9    YES NVRAM  up                    up
VirtualPortGroup0      192.168.1.1     YES NVRAM  up                    up
```