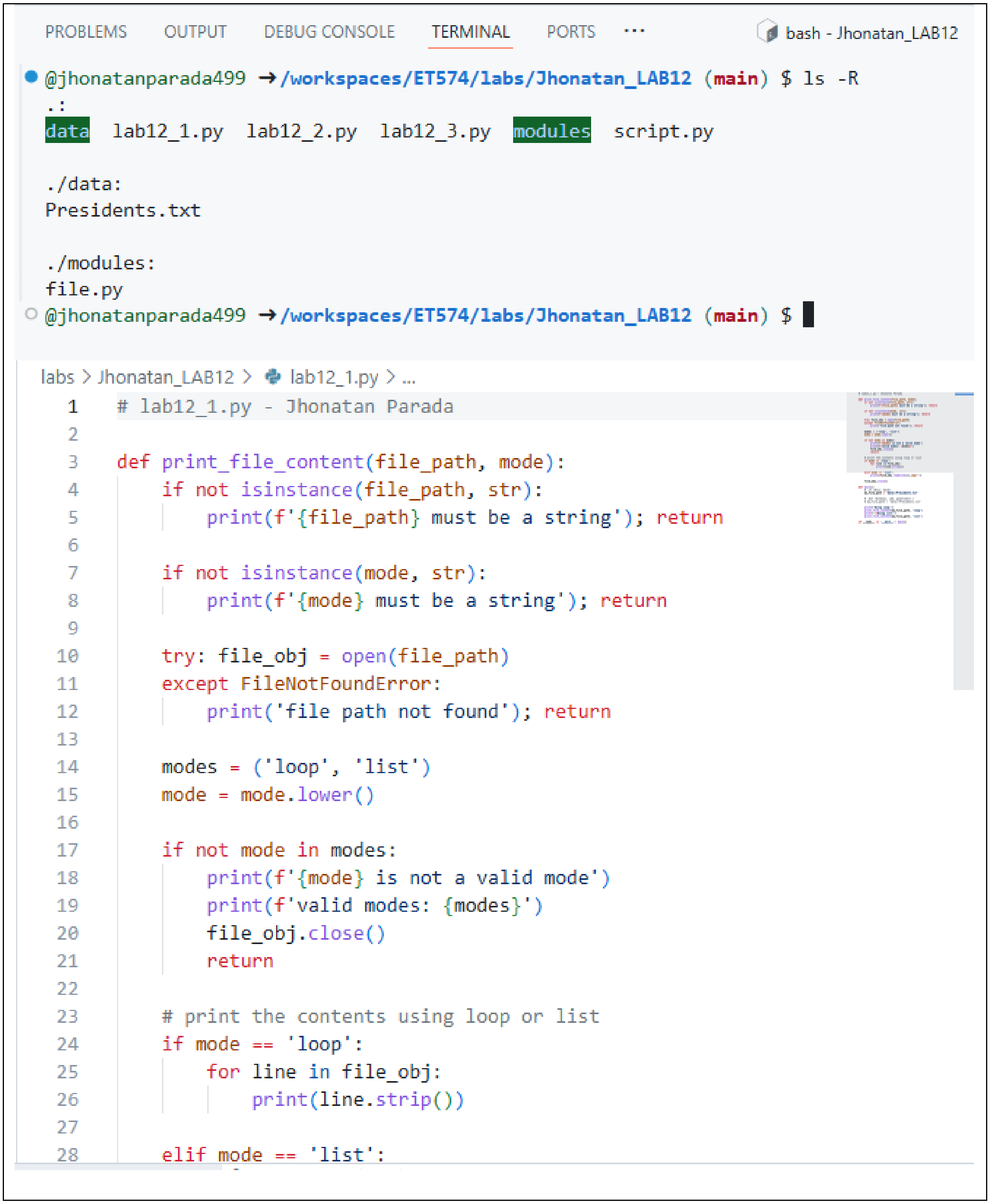
Lab 12 Summary

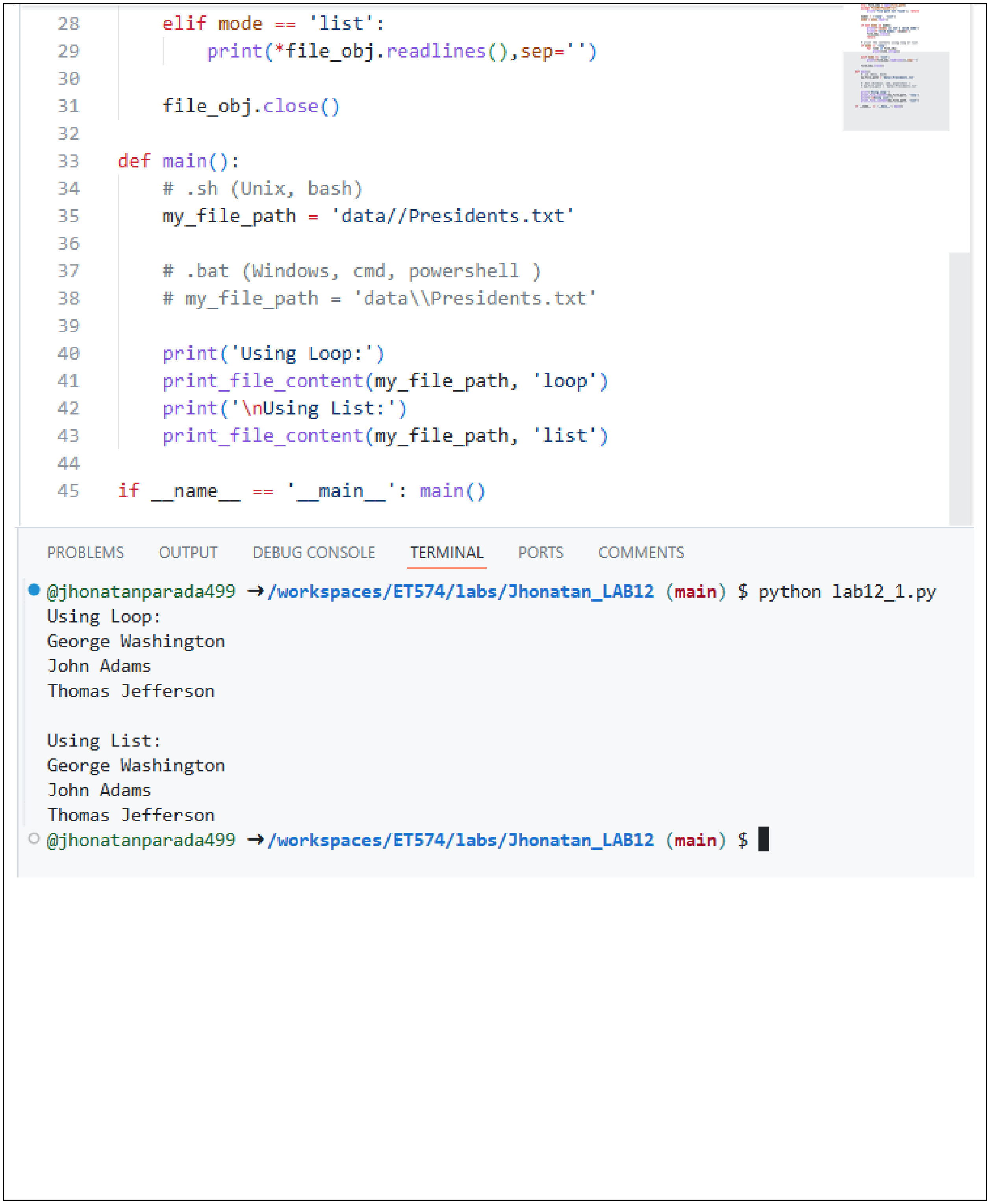
Jhonatan Parada

ET574



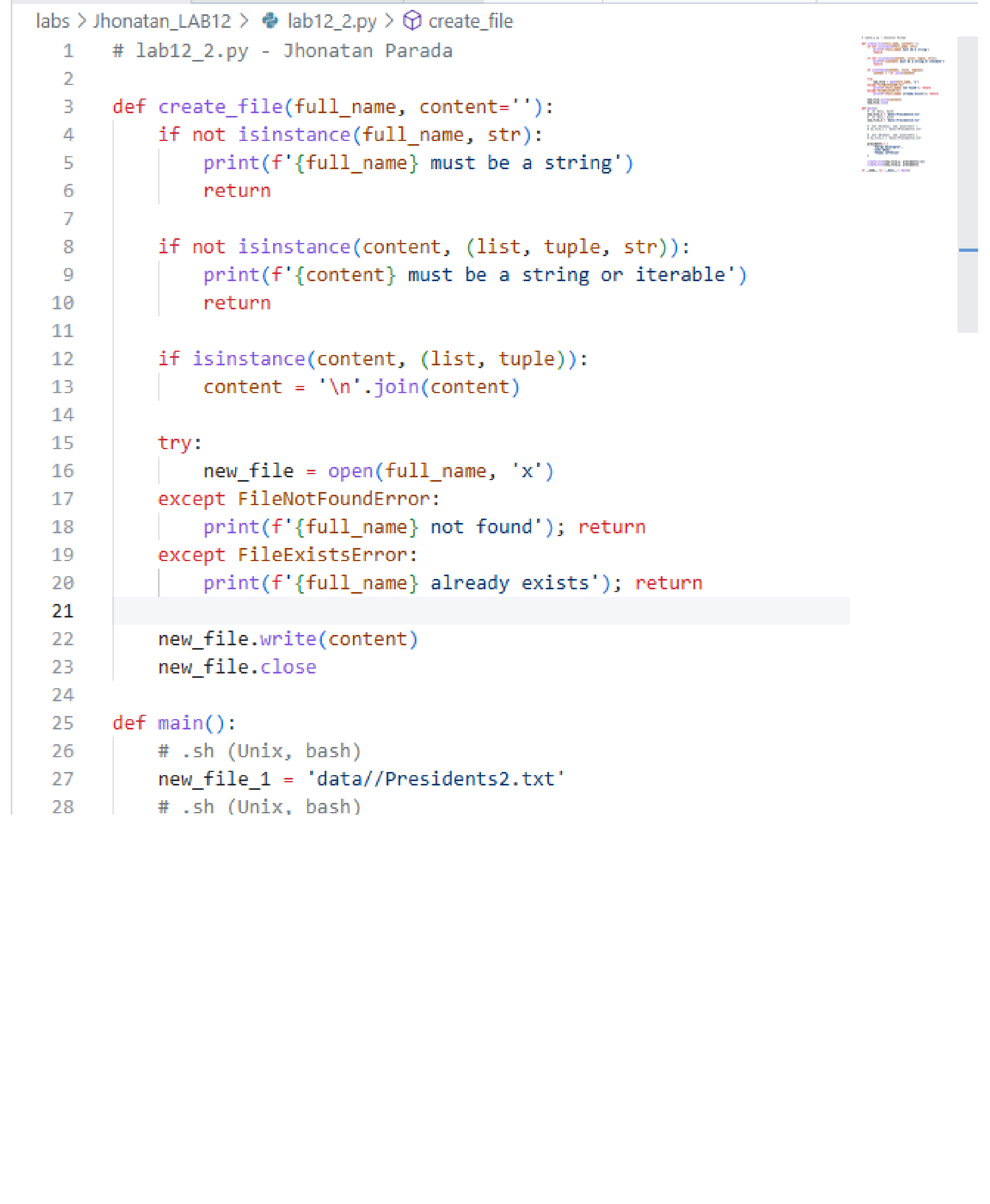
```
@jhonatanparada499 ➜ /workspaces/ET574/labs/Jhonatan_LAB12 (main) $ ls -R
.:
data  lab12_1.py  lab12_2.py  lab12_3.py  modules  script.py

./data:
Presidents.txt

./modules:
file.py
@jhonatanparada499 ➜ /workspaces/ET574/labs/Jhonatan_LAB12 (main) $ 
```

```python
# lab12_1.py - Jhonatan Parada

def print_file_content(file_path, mode):
    if not isinstance(file_path, str):
        print(f'{file_path} must be a string'); return

    if not isinstance(mode, str):
        print(f'{mode} must be a string'); return

    try: file_obj = open(file_path)
    except FileNotFoundError:
        print('file path not found'); return

    modes = ('loop', 'list')
    mode = mode.lower()

    if not mode in modes:
        print(f'{mode} is not a valid mode')
        print(f'valid modes: {modes}')
        file_obj.close()
        return

    # print the contents using loop or list
    if mode == 'loop':
        for line in file_obj:
            print(line.strip())

    elif mode == 'list':
```

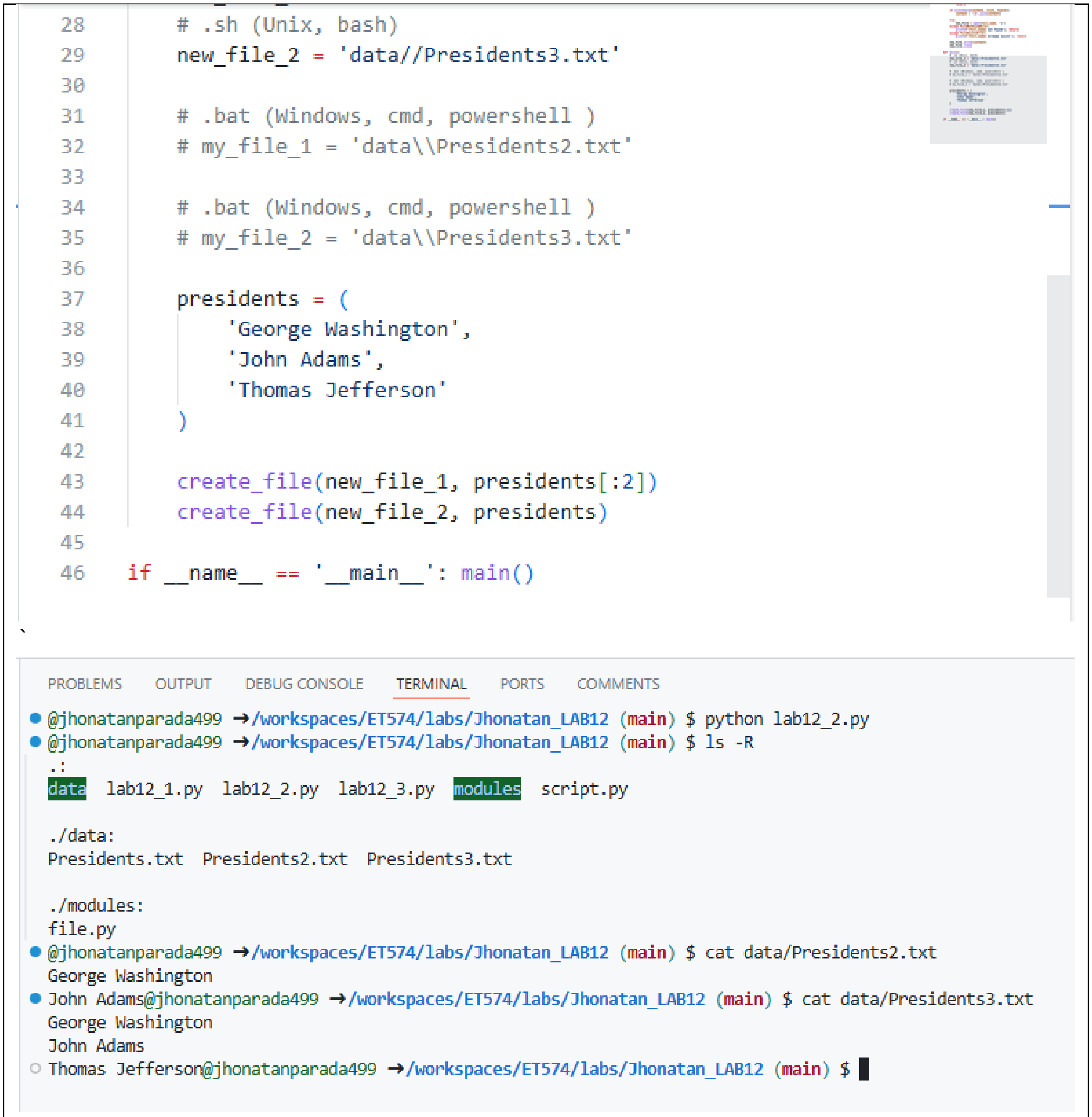


```python
    elif mode == 'list':
        print(*file_obj.readlines(),sep='')

    file_obj.close()

def main():
    # .sh (Unix, bash)
    my_file_path = 'data//Presidents.txt'

    # .bat (Windows, cmd, powershell )
    # my_file_path = 'data\\Presidents.txt'

    print('Using Loop:')
    print_file_content(my_file_path, 'loop')
    print('\nUsing List:')
    print_file_content(my_file_path, 'list')

if __name__ == '__main__': main()
```

```
● @jhonatanparada499 ➜ /workspaces/ET574/labs/Jhonatan_LAB12 (main) $ python lab12_1.py
Using Loop:
George Washington
John Adams
Thomas Jefferson

Using List:
George Washington
John Adams
Thomas Jefferson
○ @jhonatanparada499 ➜ /workspaces/ET574/labs/Jhonatan_LAB12 (main) $ 
```



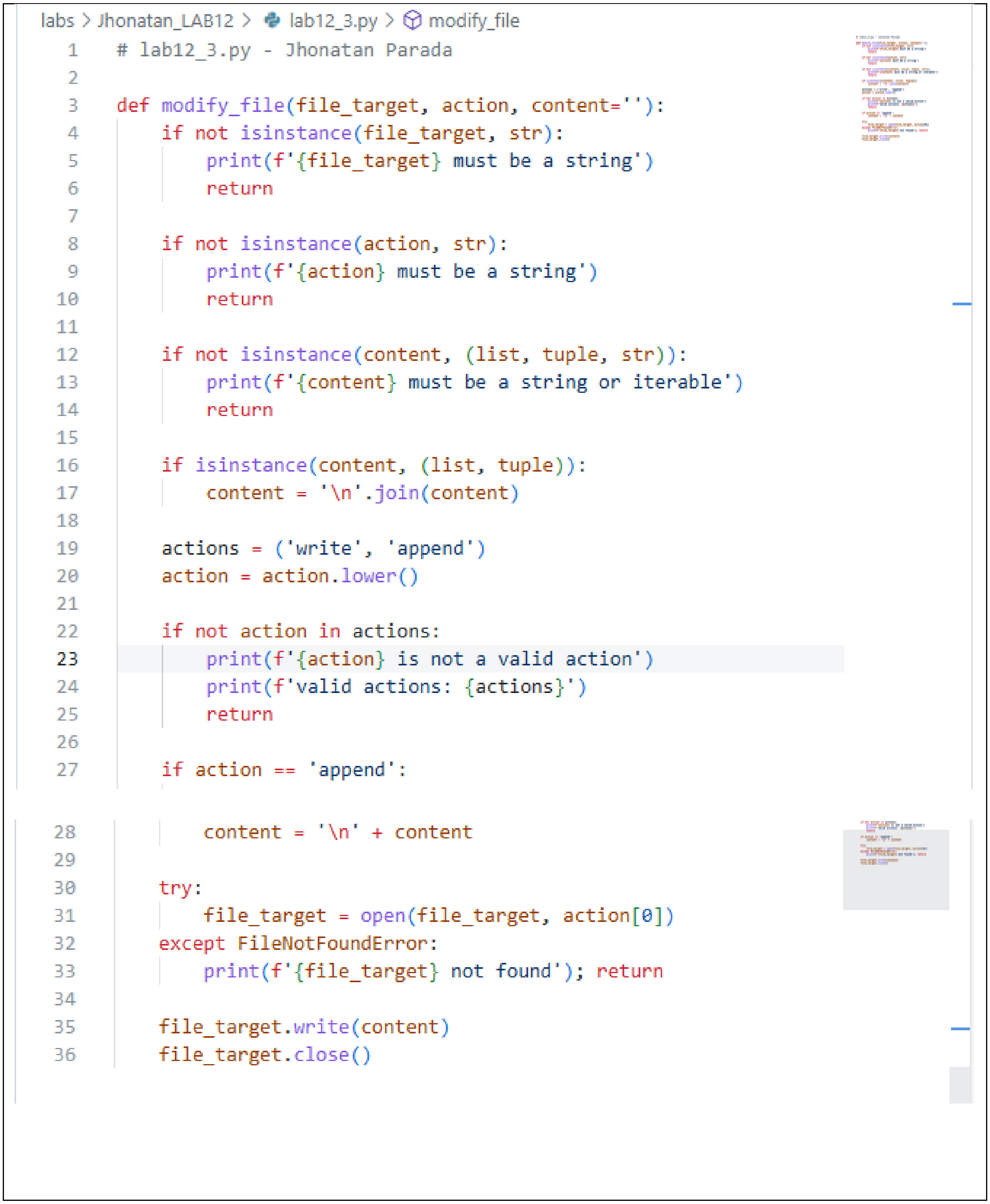
```python
# lab12_2.py - Jhonatan Parada

def create_file(full_name, content=''):
    if not isinstance(full_name, str):
        print(f'{full_name} must be a string')
        return

    if not isinstance(content, (list, tuple, str)):
        print(f'{content} must be a string or iterable')
        return

    if isinstance(content, (list, tuple)):
        content = '\n'.join(content)

    try:
        new_file = open(full_name, 'x')
    except FileNotFoundError:
        print(f'{full_name} not found'); return
    except FileExistsError:
        print(f'{full_name} already exists'); return

    new_file.write(content)
    new_file.close

def main():
    # .sh (Unix, bash)
    new_file_1 = 'data//Presidents2.txt'
    # .sh (Unix, bash)
```



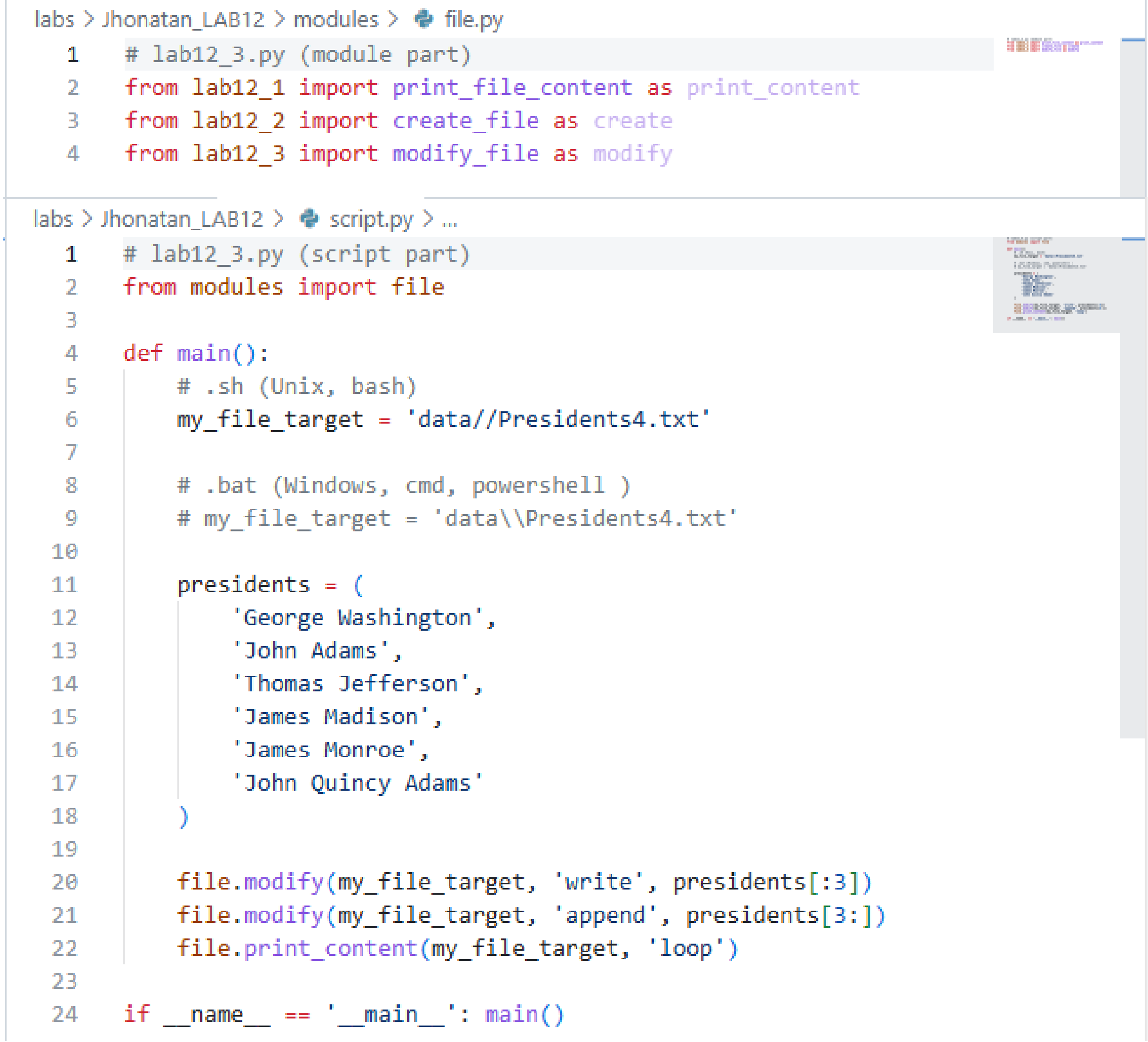
```python
    # .sh (Unix, bash)
    new_file_2 = 'data//Presidents3.txt'

    # .bat (Windows, cmd, powershell )
    # my_file_1 = 'data\\Presidents2.txt'

    # .bat (Windows, cmd, powershell )
    # my_file_2 = 'data\\Presidents3.txt'

    presidents = (
        'George Washington',
        'John Adams',
        'Thomas Jefferson'
    )

    create_file(new_file_1, presidents[:2])
    create_file(new_file_2, presidents)

if __name__ == '__main__': main()
```

`

```
@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ python lab12_2.py
@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ ls -R
.:
data  lab12_1.py  lab12_2.py  lab12_3.py  modules  script.py

./data:
Presidents.txt  Presidents2.txt  Presidents3.txt

./modules:
file.py
@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ cat data/Presidents2.txt
George Washington
John Adams@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ cat data/Presidents3.txt
George Washington
John Adams
Thomas Jefferson@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $
```



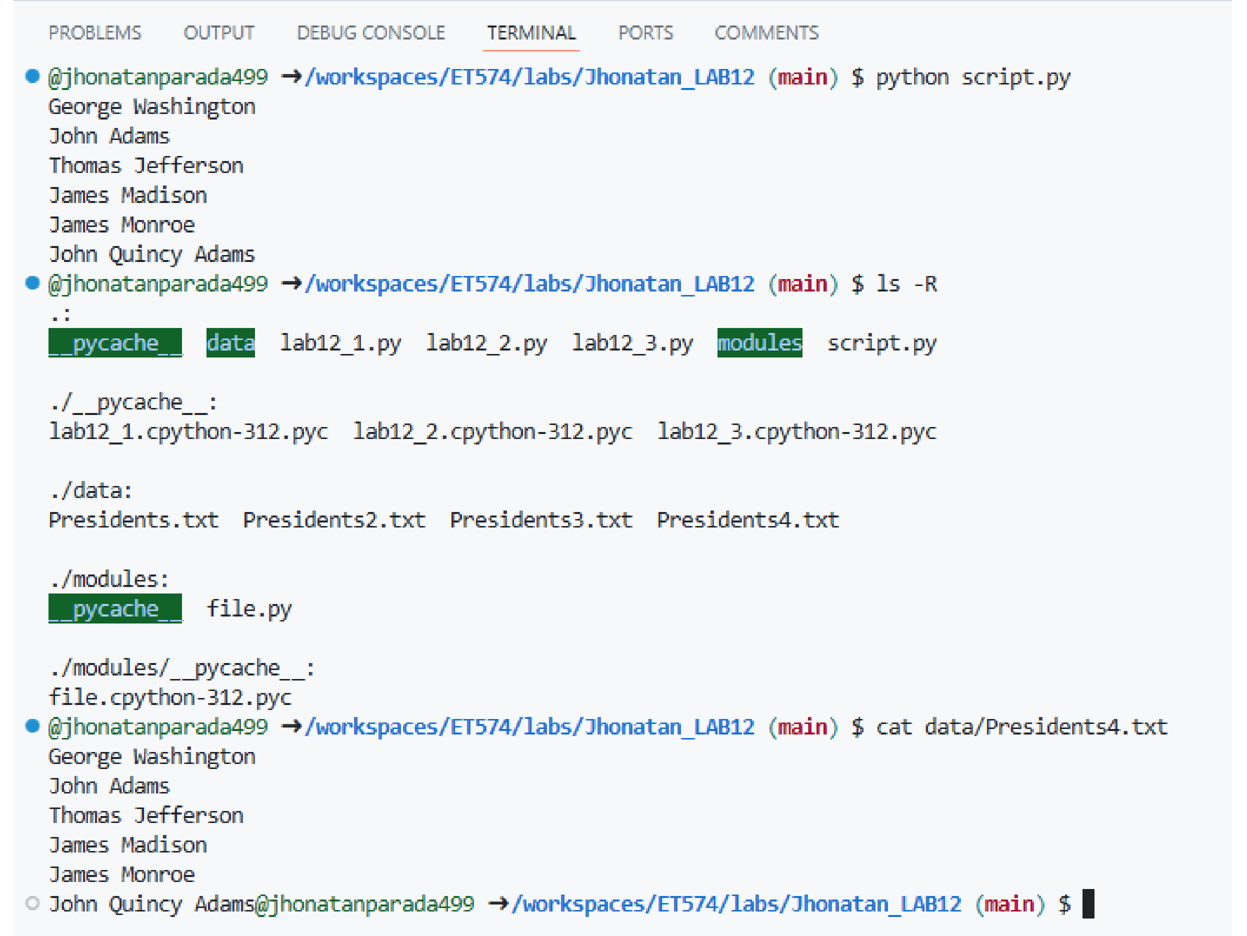
```python
# lab12_3.py - Jhonatan Parada

def modify_file(file_target, action, content=''):
    if not isinstance(file_target, str):
        print(f'{file_target} must be a string')
        return

    if not isinstance(action, str):
        print(f'{action} must be a string')
        return

    if not isinstance(content, (list, tuple, str)):
        print(f'{content} must be a string or iterable')
        return

    if isinstance(content, (list, tuple)):
        content = '\n'.join(content)

    actions = ('write', 'append')
    action = action.lower()

    if not action in actions:
        print(f'{action} is not a valid action')
        print(f'valid actions: {actions}')
        return

    if action == 'append':
        content = '\n' + content

    try:
        file_target = open(file_target, action[0])
    except FileNotFoundError:
        print(f'{file_target} not found'); return

    file_target.write(content)
    file_target.close()
```


labs > Jhonatan_LAB12 > modules > file.py

```python
# lab12_3.py (module part)
from lab12_1 import print_file_content as print_content
from lab12_2 import create_file as create
from lab12_3 import modify_file as modify
```

labs > Jhonatan_LAB12 > script.py > ...

```python
# lab12_3.py (script part)
from modules import file

def main():
    # .sh (Unix, bash)
    my_file_target = 'data//Presidents4.txt'

    # .bat (Windows, cmd, powershell )
    # my_file_target = 'data\\Presidents4.txt'

    presidents = (
        'George Washington',
        'John Adams',
        'Thomas Jefferson',
        'James Madison',
        'James Monroe',
        'John Quincy Adams'
    )

    file.modify(my_file_target, 'write', presidents[:3])
    file.modify(my_file_target, 'append', presidents[3:])
    file.print_content(my_file_target, 'loop')

if __name__ == '__main__': main()
```



```
● @jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ python script.py
  George Washington
  John Adams
  Thomas Jefferson
  James Madison
  James Monroe
  John Quincy Adams
● @jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ ls -R
  .:
  __pycache__  data  lab12_1.py  lab12_2.py  lab12_3.py  modules  script.py

  ./__pycache__:
  lab12_1.cpython-312.pyc  lab12_2.cpython-312.pyc  lab12_3.cpython-312.pyc

  ./data:
  Presidents.txt  Presidents2.txt  Presidents3.txt  Presidents4.txt

  ./modules:
  __pycache__  file.py

  ./modules/__pycache__:
  file.cpython-312.pyc
● @jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ cat data/Presidents4.txt
  George Washington
  John Adams
  Thomas Jefferson
  James Madison
  James Monroe
○ John Quincy Adams@jhonatanparada499 ➜/workspaces/ET574/labs/Jhonatan_LAB12 (main) $ █
```

2. Important considerations for this lab. If the code is run in a cmd or powershell application, use the commented alternative written in the source code. I added a lot of redundancies to handle the arguments of the functions. Instead of creating a write and append function, I merge them into one since I noticed that both functions were almost or even the same, the action parameter determines what will be performed. The same thing I did with the first .py file with loop and list. Lab12_3.py commanded to create a function to read and display the content of a file, something that already was done in lab12_1.py, and so that was the one I imported in the file module.