

INTRODUCTION TO PROGRAMMING USING PYTHON

Outline

- **File Input Output**
- **Modules**
- **Packages**
- **Python Standard Library**
- **External Libraries**
- **Automation demo**

File Input Output (Open)

```
open(file_name, mode)
```

mode	Job description
r	Open Files for reading only
w	Open Files for writing only *
a	Open Files for appending *
r+	Open Files for reading and writing *
rb	Open Files for reading binary files
rb+	Open Files for reading and writing binary files *

* If the file not exist , It will create it.

File Input Output (Read)

```
f1 = open("some_file.txt", 'r')
```

```
f1.read()
```

```
#output: Some text on line 1.
```

```
        Other text on line 2.
```

```
f1.read(4)
```

```
#output: Some
```

```
f1.readline()
```

```
#output:  text on line 1.
```

```
f1 = open("some_file.txt", 'r')
```

```
for line in f1:
```

```
    print(line)
```

```
#output: Some text on line 1.
```

```
        Other text on line 2.
```

some_file.txt

Some text on line 1.

Other text on line 2.

File Input Output (Write)

```
fl = open("some_file.txt", 'w')
```

some_file.txt

Some text on line1.

Other text on line2.

File Input Output (Write)

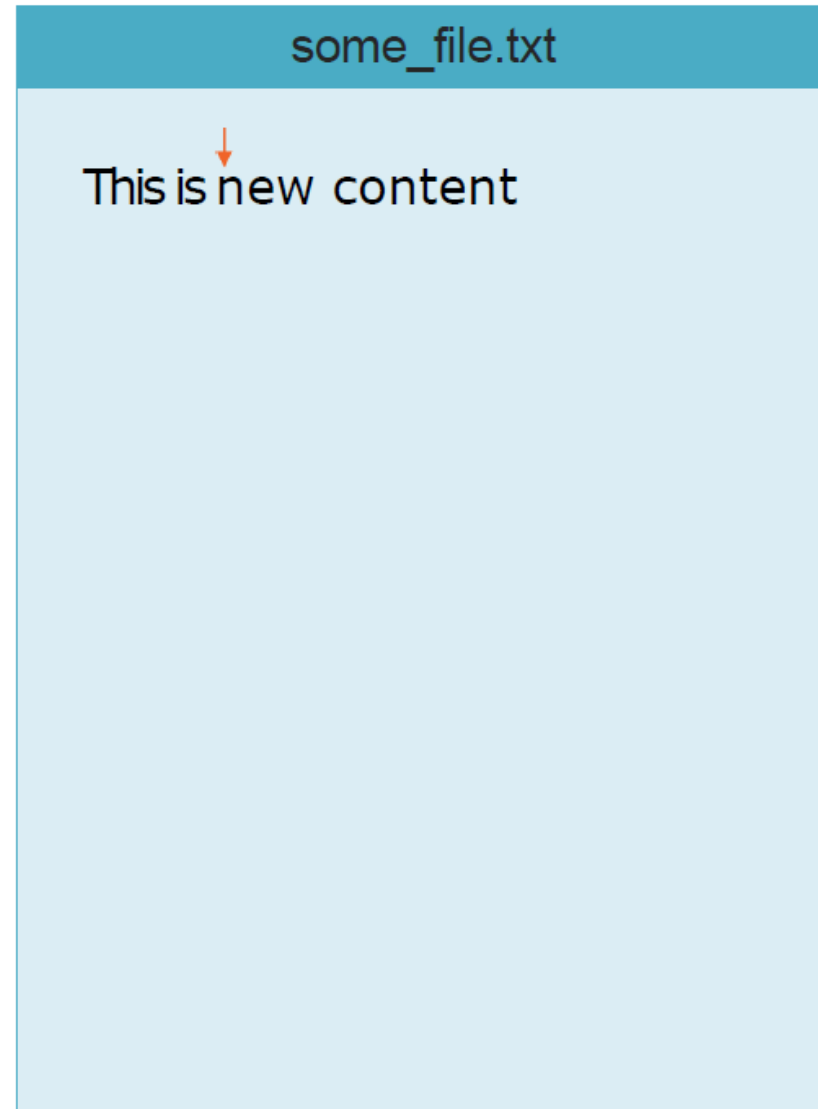
```
fl = open("some_file.txt", 'w')  
fl.write("This is new content")
```

some_file.txt

This is new content

File Input Output (Write)

```
f1 = open("some_file.txt", 'w')  
f1.write("This is new content")  
f1.seek(8)
```



File Input Output (Write)

```
fl = open("some_file.txt", 'w')
fl.write("This is new content")
fl.seek(8)
fl.write("old")
```

some_file.txt

This is old content

File Input Output (Write)

```
f1 = open("some_file.txt", 'w')
f1.write("This is new content")
f1.seek(8)
f1.write("old")
f1.close()

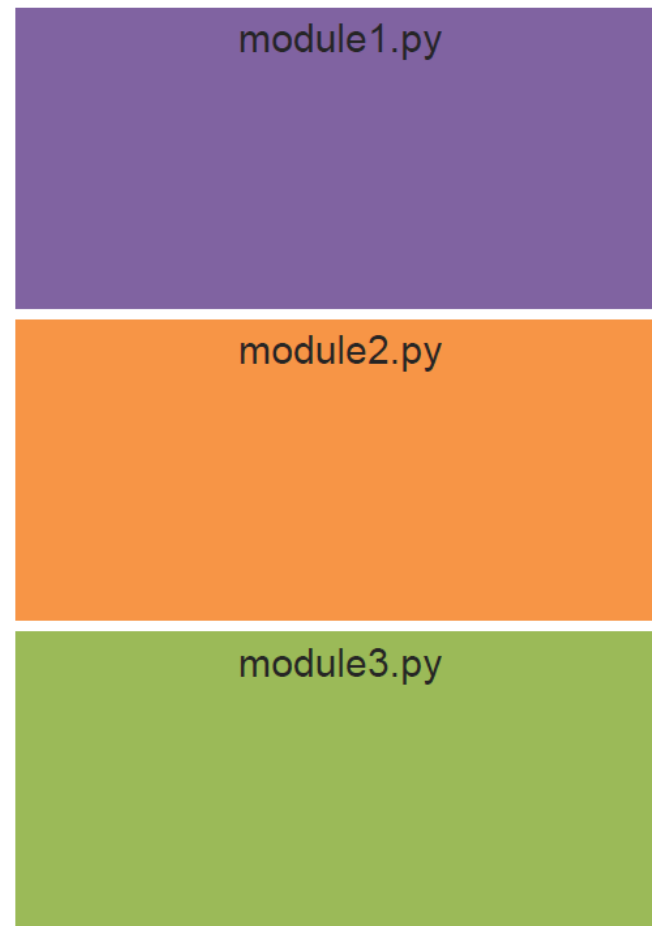
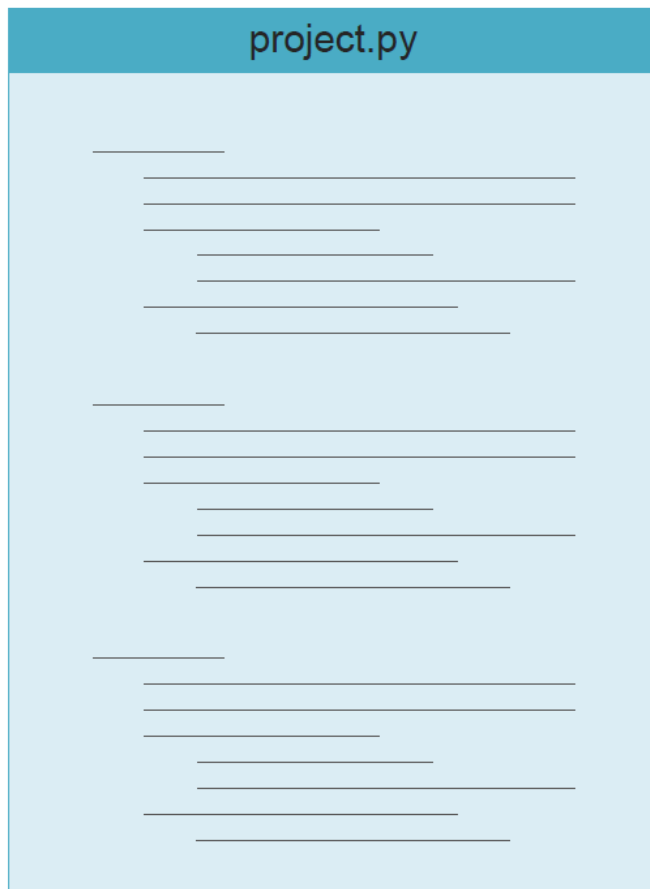
f1 = open("some_file.txt", 'a')
f1.write("\n content is appended")
```

some_file.txt

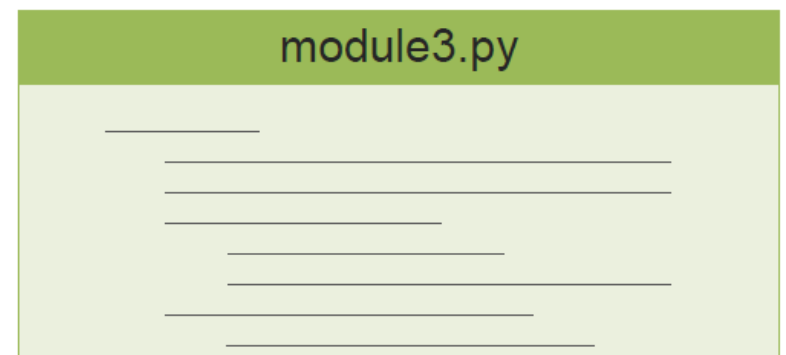
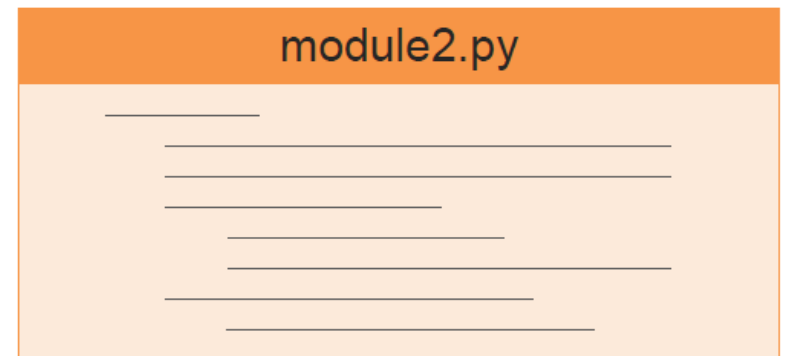
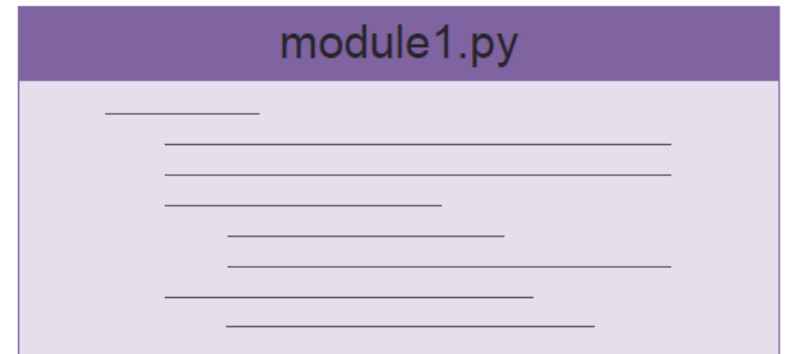
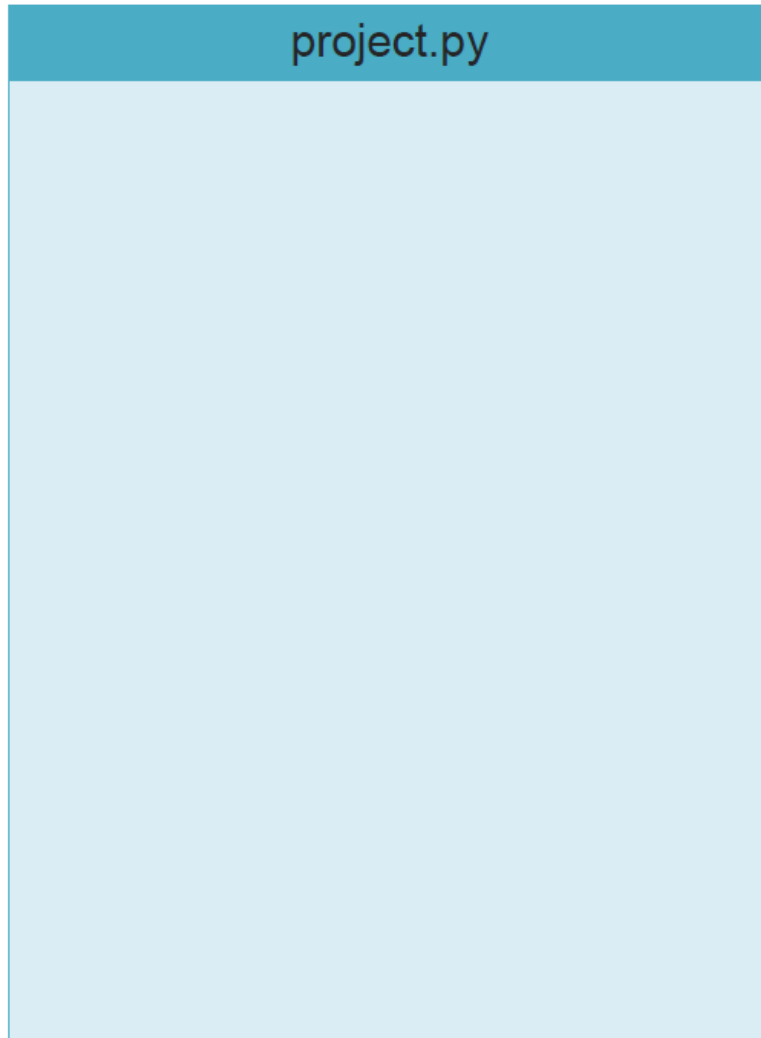
This is old content
content is appended

Modules

- To make your code more modular



Modules



How To

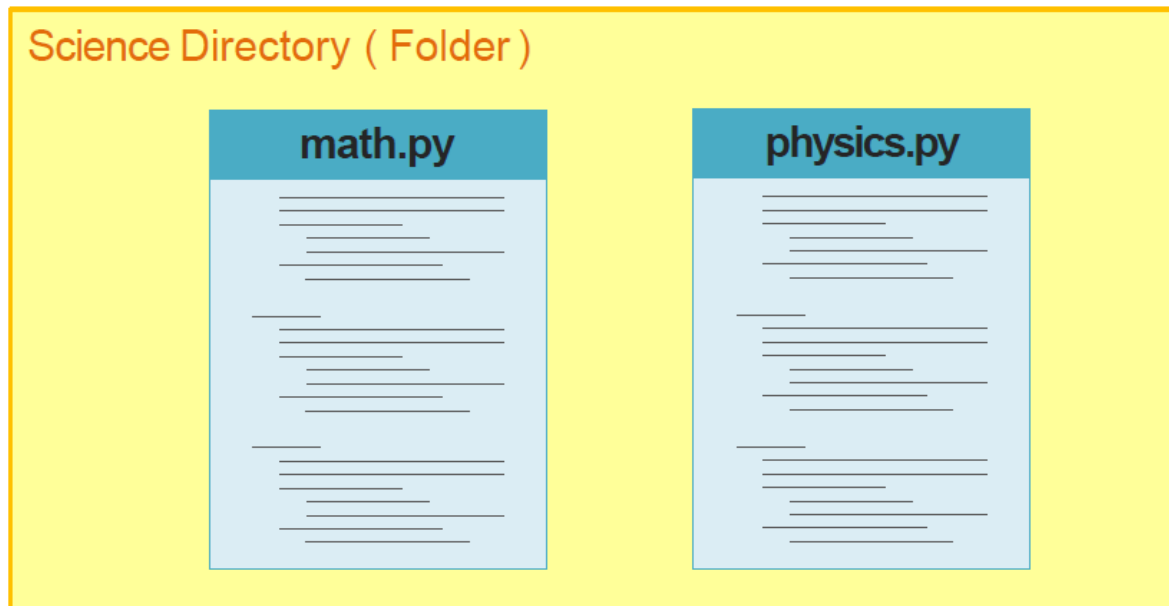
from module_name **import** block_name



i.e. from **math** import **tan**

Packages

```
from pkge_name.module_name import block_name
```



i.e. `from science.math import tan`

Standard Library

os

math

re

Sys

socket

OS

- module provides functions for interacting with the operating system

```
import os
print(os.getcwd())
print(os.getpid())
os.chdir('C:\\')
os.system('dir')
os.getlogin()
```



```
E:\python sys admin 2023\Day4\Day4demo
3916
```

```
Volume in drive C has no label.
```

```
Volume Serial Number is 7812-52F8
```

```
Directory of C:\
```

math

- module provides access to the mathematical functions by the C standard

```
import math
print(math.pi)          3.141592653589793
print(math.ceil(3.2))    4
print(math.floor(3.6))   3
print(math.sqrt(9))      3.0
```


re

- provides regular expression matching operations

```
import re
```

```
re.match(pattern, string)
```

```
#match string with pattern from its starting
```

```
re.fullmatch(pattern, string)
```

```
#match full string with the pattern
```

```
re.search(pattern, string)
```

```
#scan the string finding the part that match the pattern
```

re

```
import re
emailregexexpression="
statment='asd@yahoo.com'
re.fullmatch(statment,emailregexexpression)
statment='asd@yahoo.com plpalapl plaplspals'
re.match(statment,emailregexexpression)
statment='palpalp asd@yahoo.com palpalp asd@yahoo.com'
re.search(statment,emailregexexpression)
re.findall(statment,emailregexexpression)
```

External Libraries

- **Pip** is a package management system used to install and manage software packages written in Python

```
pip install "some library"
```

i.e. `pip install libcloud`

Demo

Exercises



