

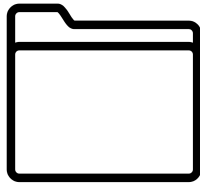
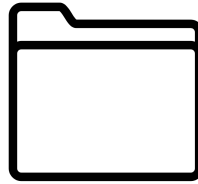
# Introduction to Computer Programming Lecture 6.2:

## **Importing Python Files**

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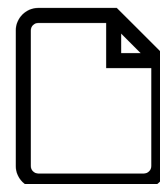
Documents



5\_2



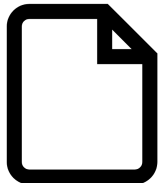
`__init__.py`



`myFuncs.py`



6\_2



`__init__.py`



`myClass.py`



`__init__.py`



`main.py`



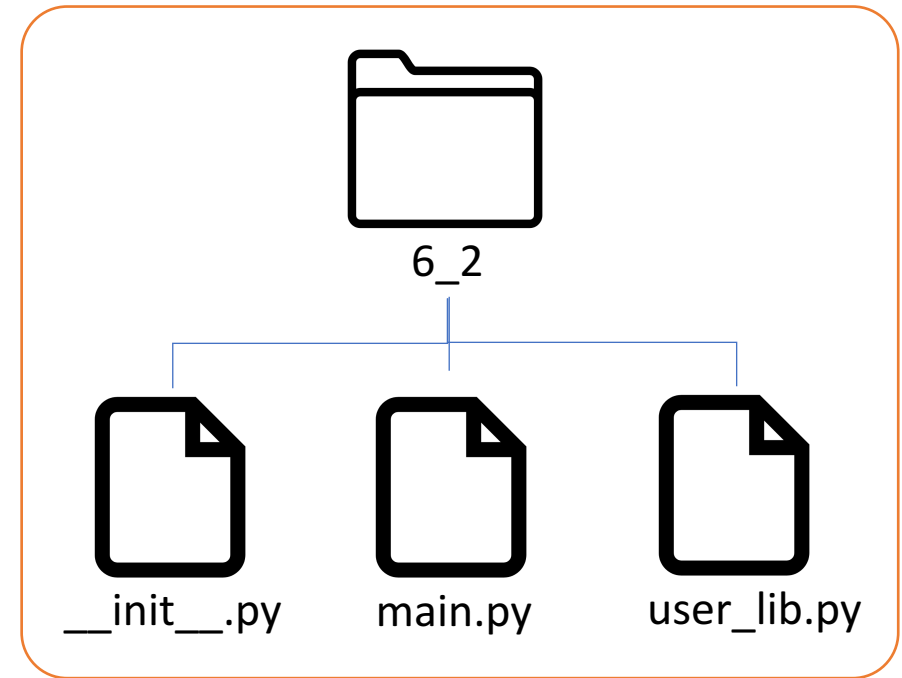
`user_lib.py`

**Module:** A single .py file with Python code

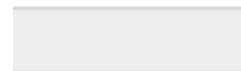
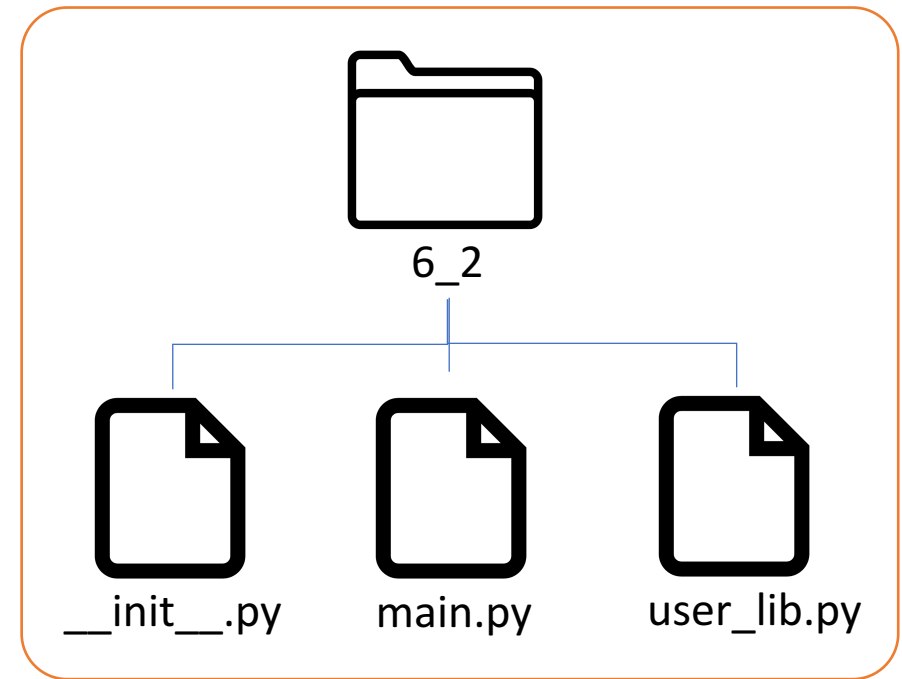
**Package:** A directory that contains multiple python modules

**`__init__.py`**

.py files contained in the same directory treated as python modules  
can be empty / execute initialization code for a package.



Create three python files in the same directory



Save the file :

File >> Save

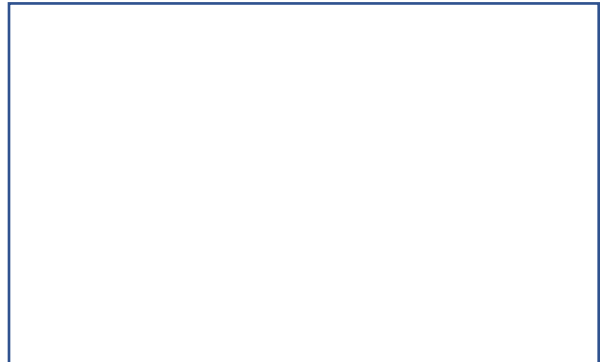
main.py

```
from user_lib import *  
print_a_number()  
type_data(2)  
A = number
```

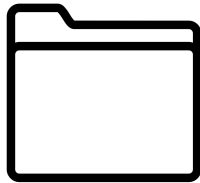
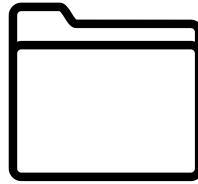
user\_lib.py

```
number = 2  
  
def print_a_number():  
    print(number)  
  
def type_data(data):  
    print( type (data) )
```

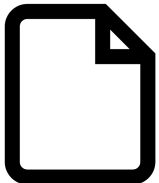
\_\_init\_\_.py (*empty*)



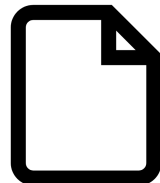
Documents



5\_2



`__init__.py`



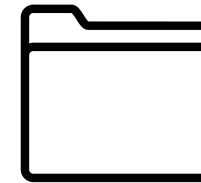
`myClass.py`



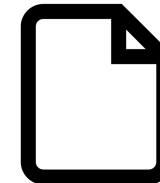
`__init__.py`



`myFuncs.py`



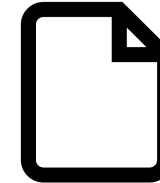
6\_2



`__init__.py`



`main.py`



`user_lib.py`

Python interpreter automatically creates a list of all of directories to search for modules when importing.

When importing a package, Python searches the list of directories for the package subdirectory.

To import a module or package it must be on a ***path*** in the list:

**sys.path**

```
[>>> import sys
[>>> sys.path
['', '/opt/anaconda3/lib/python37.zip', '/opt/anaconda3/lib/python3.7', '/opt/anaconda3/lib/python3.7/lib-dynload',
'/opt/anaconda3/lib/python3.7/site-packages', '/opt/anaconda3/lib/python3.7/site-packages/aeosa']
```

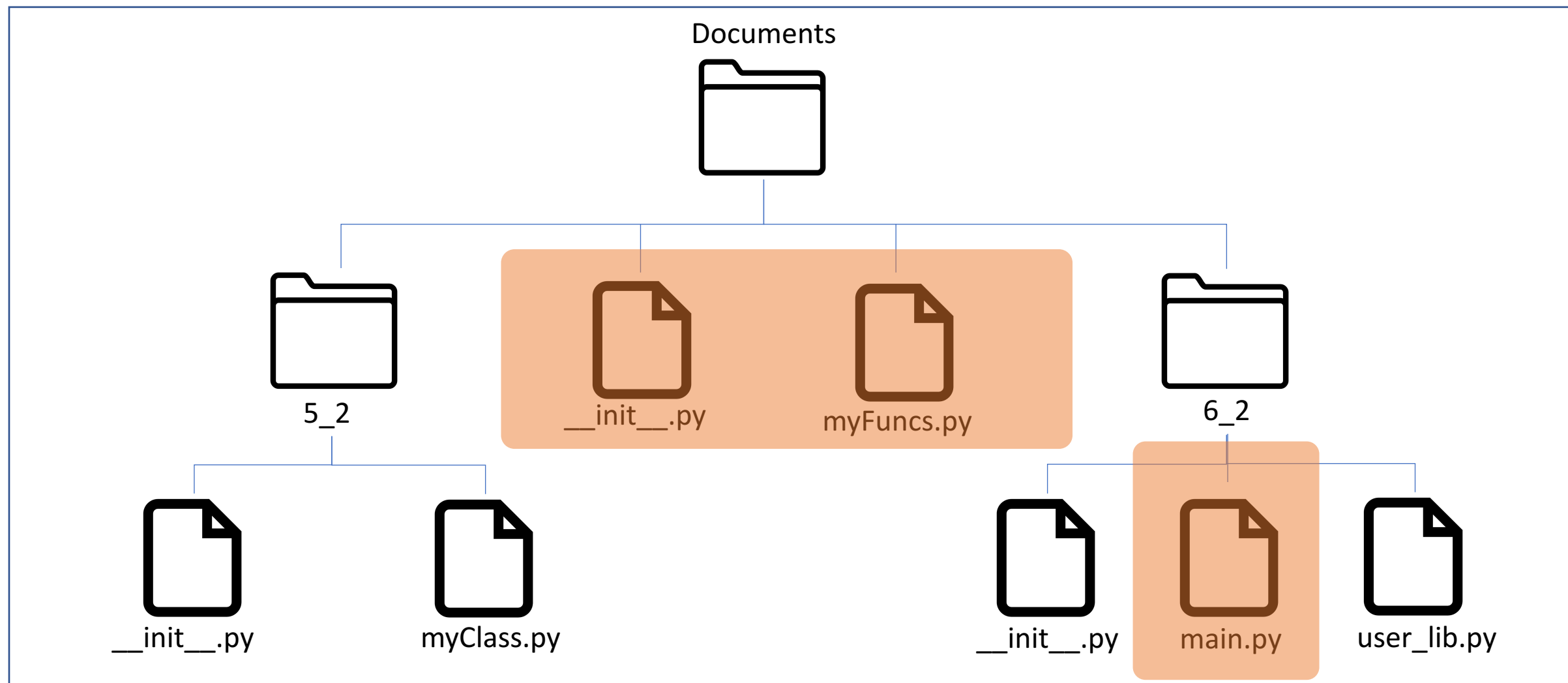
sys.path can be modified from within Python.

sys.path.append()

sys.path.insert()

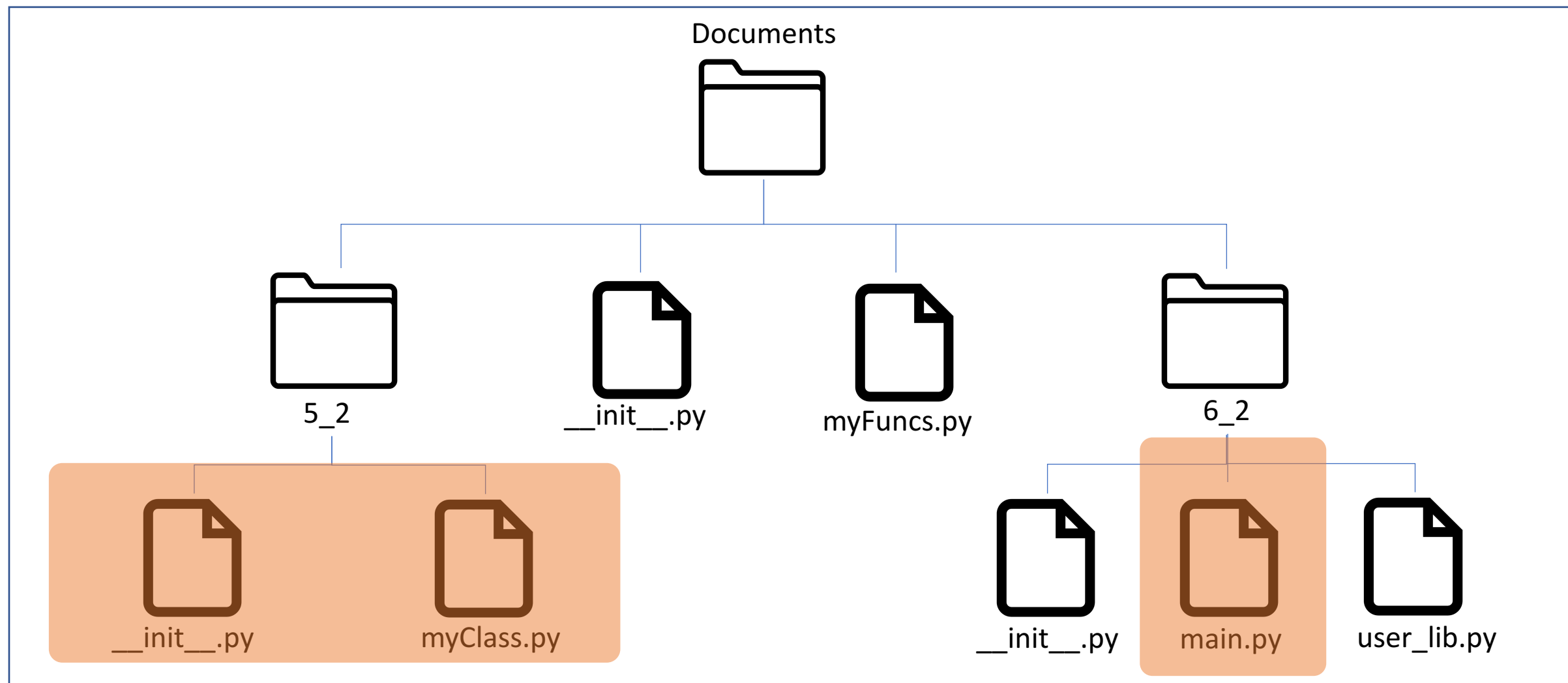
Modifications to sys.path only apply for the life of that Python interpreter.

```
import sys
sys.path.append(' ../' )
import myFuncs
```





```
import sys
sys.path.append( '../5_2' )
import myClass
```



**Full file path :** The path to the file from your computer Home directory.

Windows

```
sys.path.append( 'C:\Desktop\my_folder\my_sub_folder' )
```

Mac & Linux

```
sys.path.append( ' /Users/Hemma/Desktop/my_folder/my_sub_folder' )
```

**Removing a directory from the path**

```
sys.path.remove( <directory_to_remove> )
```