

Make a Python Package for Easy App Making

by

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Dedicated to God the Father

How to Make a Python Package (Library)

Let's make a library of functions for us to use in all of our projects, which we will install system wide on our computer. Later, we can even choose to upload our package to the internet and share it with the world.

By making a package of functions we can update our package anytime that we want and all of our projects will utilize the same updated library!

This makes programming much easier, because we only have to make the library one time, instead of over and over again.

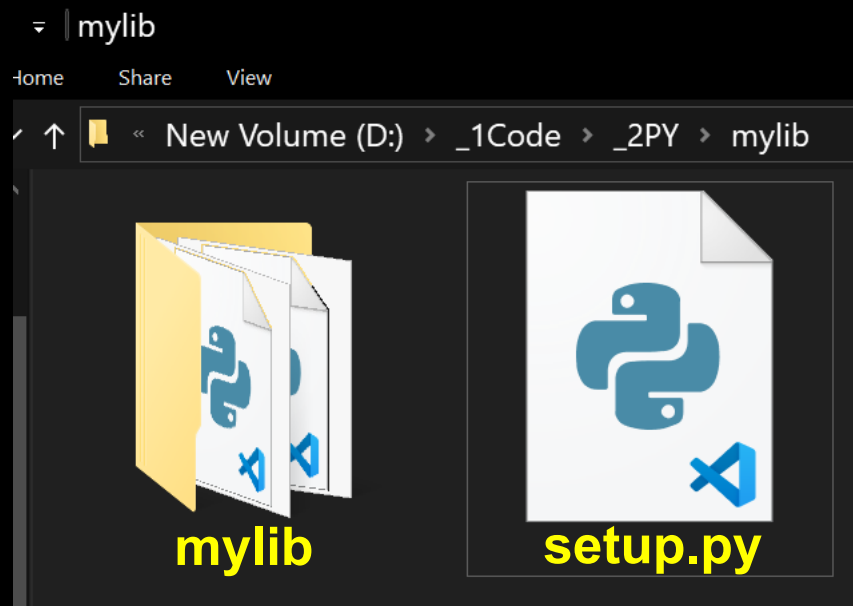
This allows us to be much more productive, because the package can easily be imported after it has been installed system wide using **pip install** .

How to Create a Python Package

- * We create a folder, named **mylib**



- * In **mylib** folder we make another folder named **mylib**



- * In the main **mylib** folder, we place **setup.py**

setup.py is used to Install our Package

We create a `setup.py` file, which defines our package and its metadata. This file is essential for distributing and installing our library across projects.

First, we make a `new text file` in `VSCode Editor` and `type` the script that we see on the next page and save it as `setup.py`

NEXT PAGE SHOWS `setup.py`

```
# setup.py
```

```
from setuptools import setup, find_packages
```

```
setup(  
    name = 'mylib',  
    version = '0.1',  
    author = 'Christopher Andrew Topalian',  
    packages = find_packages(),  
)
```

```
####
```

```
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```
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```
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```

```
# https://github.com/ChristopherTopalian
```

```
# https://github.com/ChristopherAndrewTopalian
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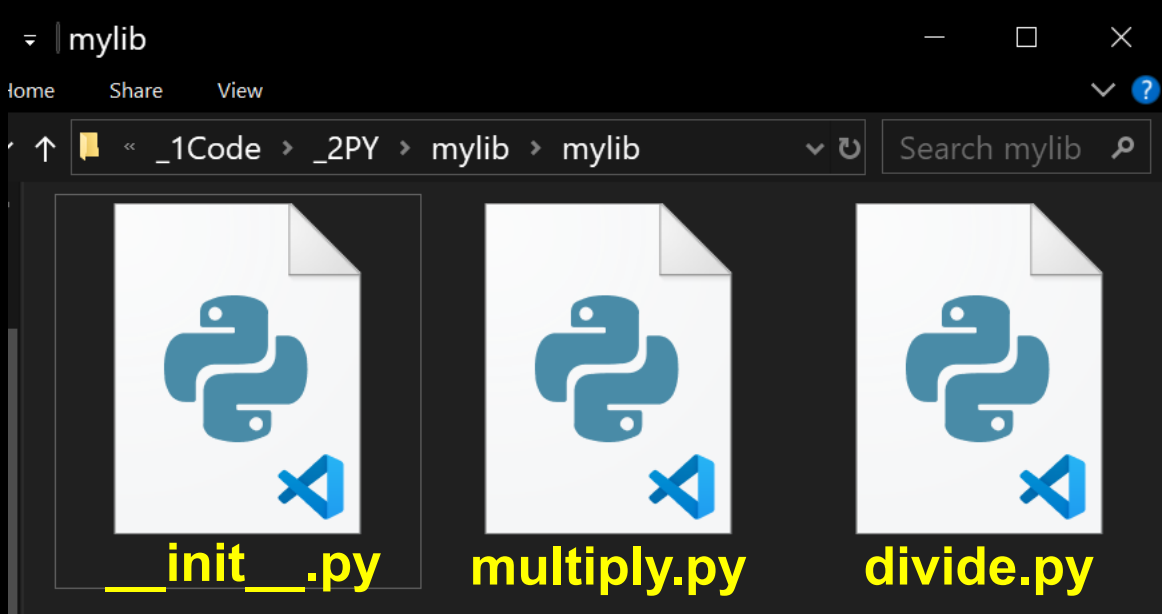
```
# https://sites.google.com/view/CollegeOfScripting
```

* In the second **mylib** folder, we place 3 files:

__init__.py

multiply.py

divide.py



The first file is named **__init__.py**

which has two underscores before and after.

We write two underscores together **__** and then the word **init** and then two more underscores.

We save our file as **__init__.py**

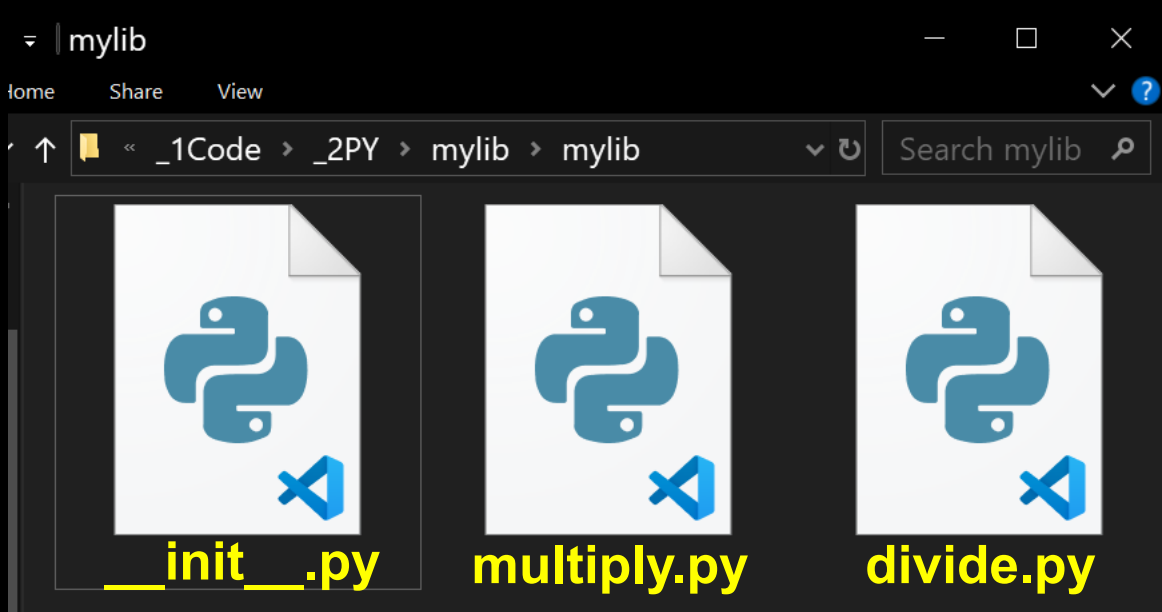
```
# __init__.py
```

```
from .multiply import multiply  
from .divide import divide
```

```
####
```

```
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```


Here are the python library **function files** that we will add to our **mylib** package.



We place **multiply.py** and **divide.py** inside of this second **mylib** folder.

Thus, the **two functions** we are **adding to our library** are: **multiply.py** and **divide.py**

On the next page, we see the python function script that we save as **multiply.py**

NEXT PAGE SHOWS multiply.py

```
# multiply.py
```

```
def multiply(a, b):  
    return a * b
```

```
##
```

```
if __name__ == "__main__":  
    print(multiply(4, 4))  
    input("")
```

```
####
```

```
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```

On the next page, we see the python function script that we save as **divide.py**

NEXT PAGE SHOWS divide.py

```
# divide.py
```

```
def divide(a, b):  
    return a / b
```

```
##
```

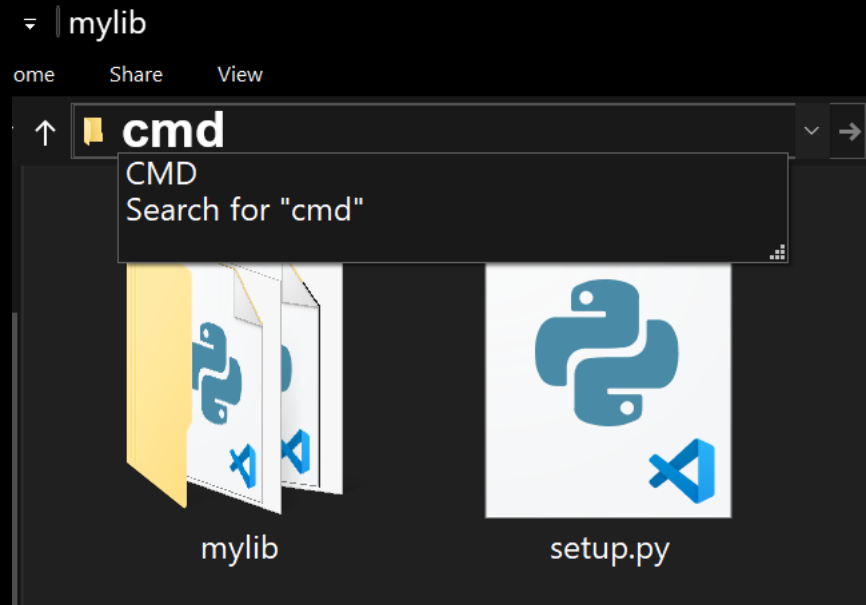
```
if __name__ == "__main__":  
    print(divide(10, 2))  
    input("")
```

```
####
```

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# https://sites.google.com/view/CollegeOfScripting
```

How to Install Our Package Computer Wide

We type **cmd** into the **mylib** main folder
address bar and press **Enter**



We type in the Command prompt:
pip install .
press **Enter**

This installs our Package system wide.

Now, we can import our package from
anywhere in our Python environment on our
computer.

Now, let's **make a new script** and import and use the functions from our package that we have created and installed worldwide on our computer system.

We make a **new script** in **VSCode** and save it as, **usesOurPackage.py**

NEXT PAGE SHOWS **usesOurPackage.py**

```
# usesOurPackage.py
```

```
from mylib import multiply, divide
```

```
multiplied = multiply(4, 4)  
print(multiplied)
```

```
divided = divide(10, 2)  
print(divided)
```

```
####
```

```
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# https://github.com/ChristopherAndrewTopalian  
# https://sites.google.com/view/CollegeOfScripting
```

Updating Our Package

When we make changes and want to update our package with new functions or changes to our existing functions:

We Don't Update the package using:

```
pip install -e .
```

press **Enter**

Instead, it is easier to **uninstall** the package and then **install** it again to avoid conflicts.

We open the **system wide command prompt** and type:

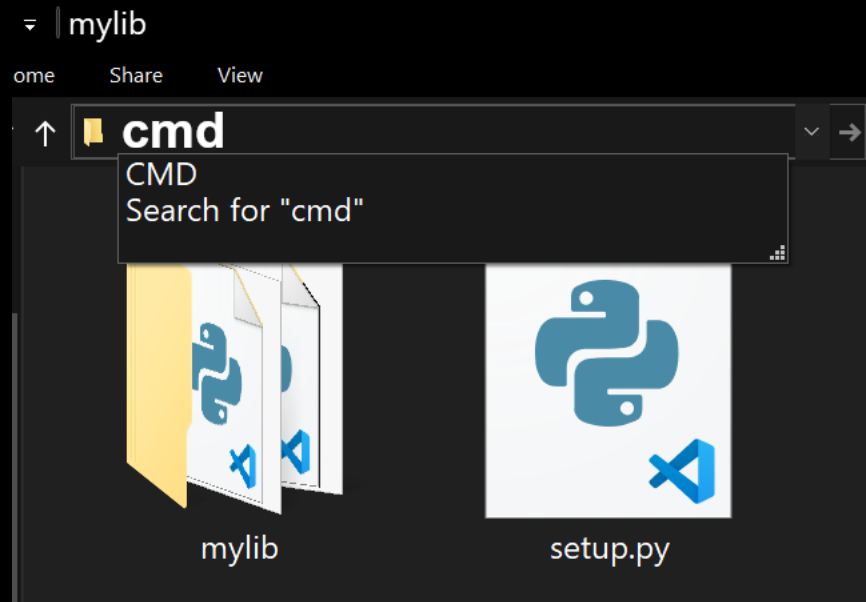
```
pip uninstall mylib
```

press **Enter**

This uninstalls the mylib package from the system.

We repeat the install process as before:

We type **cmd** into the **mylib** main folder address bar and press **Enter**



We type in the Command prompt:

pip install .

press **Enter**

This again installs our Package system wide. Now, any changes that we have made, such as any additional functions included, are now available in our library of functions.

Now, we can import our package from anywhere in our Python environment on our computer and use the functions from our package in any script that we are making :-)

How to Paste Code from a PDF that has Junk Characters.

How to Paste Code from a PDF that has Junk Characters.

When we paste from a pdf into VSCode, it might look like this:

```
function combineJSFiles(directory,  
scriptFilename)  
{  
  let outputPath = path.join  
(directory, 'main.js');  
  
  let fileContents = [];
```

We can't leave those junk characters in the code, so we remove them with find/replace.

We Find 1 of the spaces.

We Replace All with the 1 space that we typed.
This gets rid of the junk characters in the code.

We highlight 1 space with our mouse arrow:

```
function combineJSFiles(directory,
scriptFilename)
```

```
{
```

```
  let outputFilePath = path.join
(directory, 'main.js');
```

```
  let fileContents = [];
```

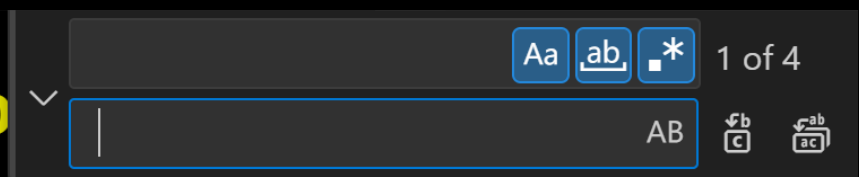
We press Control + H to open the Find/Replace feature and Replace All with our own Space

```
function comb
scriptFilename)
```

```
{
```

```
  let outputFilePath = path.join
(directory, 'main.js');
```

```
  let fileContents = [];
```

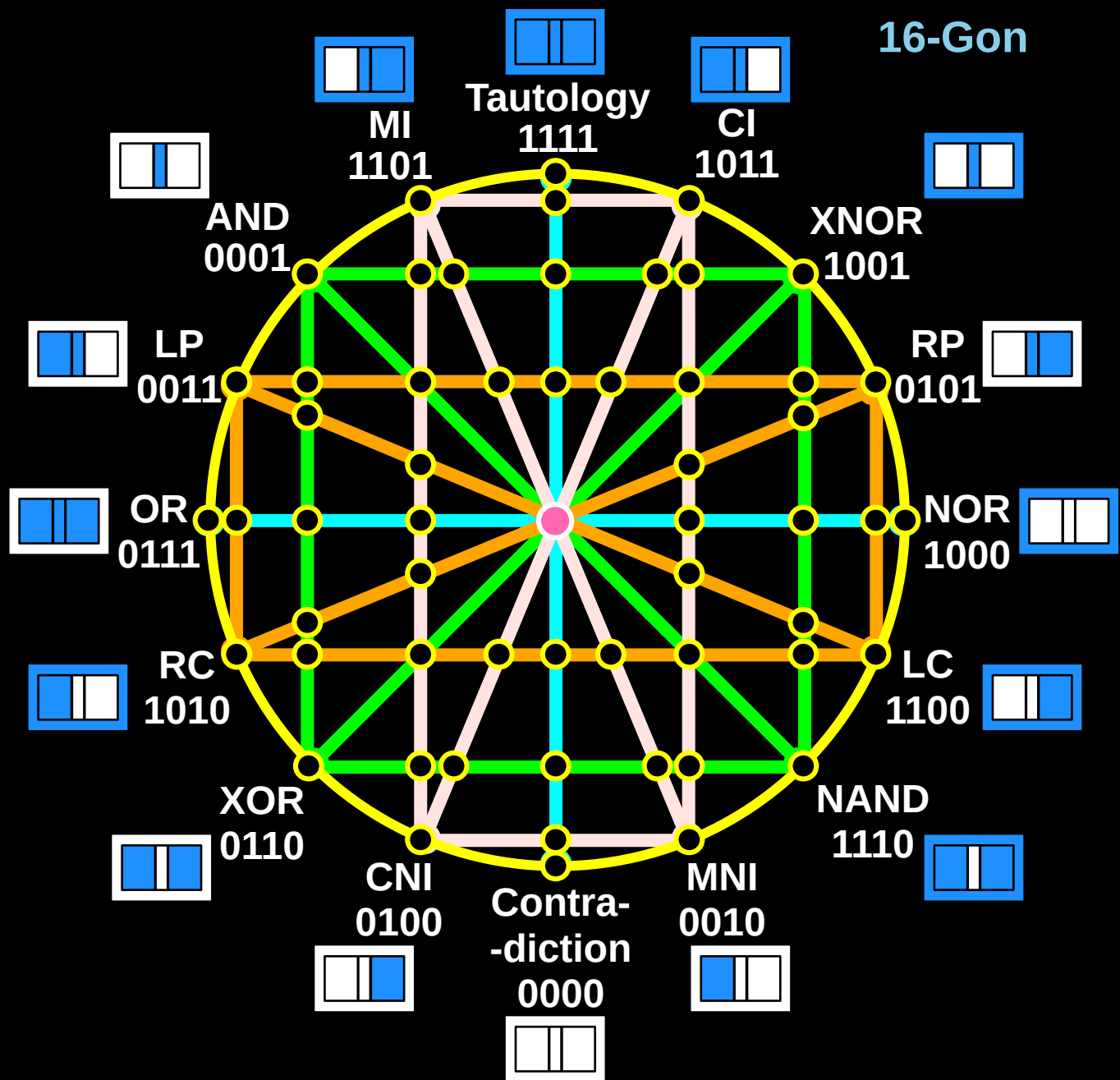


Here we see that the Find/Replace All has replaced the junk characters with our working spaces instead:

```
function combineJSFiles(directory,  
scriptFilename)  
{  
    let outputFilePath = path.join  
    (directory, 'main.js');  
  
    let fileContents = [];
```

Now that the code
has no junk characters,
it can run.

True Artificial Intelligence System



For More Tutorials:

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**This book is created by the
College of Scripting Music & Science.
Always remember, that each time you write a
script with a pencil and paper, it becomes
imprinted so deeply in memory that the
material and methods are learned extremely
well.**

**When you Type the scripts, the same is true.
The more you type and write out the scripts by
keyboard or pencil and paper, the more you
will learn programming!**

**Write and Type every example that you find.
Keep all of your scripts organized.
Every script that you create increases your
programming abilities.
SEEING CODE, is one thing,
but WRITING CODE is another.
Write it, Type it, Speak it, See it, Dream it.**

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