

# Python Programming

## Module vs Script

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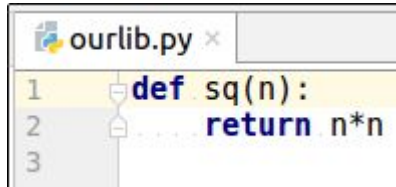
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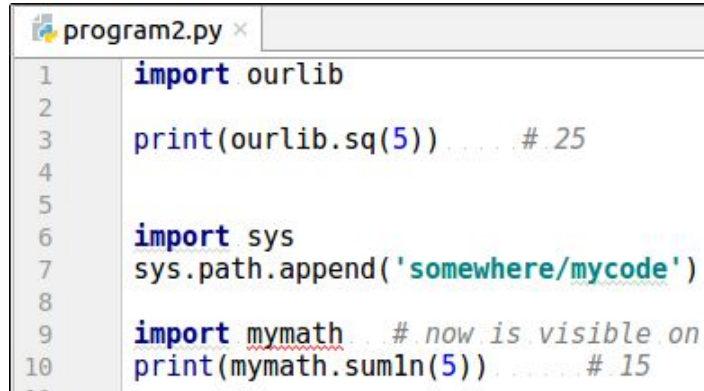


# Module vs Script

- From python perspective: same thing - somefile.py
- **Modules** are intended to be imported as a library (e.g. ourlib.py)
- **Scripts** are top level files acting like an application (e.g. program1)
  - Usually has printing/logging messages



```
ourlib.py x
1 def sq(n):
2     return n*n
3
```



```
program2.py x
1 import ourlib
2
3 print(ourlib.sq(5)) ... # 25
4
5
6 import sys
7 sys.path.append('somewhere/mycode')
8
9 import mymath ... # now is visible on
10 print(mymath.sumln(5)) ... # 15
```

# \_\_main\_\_

```
ourlib.py x program1.py x
1 def sq(n):
2     return n*n
3
4
5 print(f'__file__ {__file__}')
6 print(f'__name__ {__name__}')
7
8
9 if __name__ == '__main__':
10     # It will never be true if we did not
11     # run ourlib.py ITSELF
12     print('Script from ourlib')
```

Guess the output if we run ourlib.py? program1.py?

```
ourlib.py x program1.py x
1 import ourlib
2 print('After importing ourlib')
3
4 print(f'__file__ {__file__}')
5 print(f'__name__ {__name__}')
6
7 # No effect. Loaded once!
8 import ourlib
9 import ourlib
10 import ourlib
11
12 if __name__ == '__main__':
13     # Only the script you run has:
14     # __name__ = '__main__'
15     # Otherwise: file name
16     print('Script from program1')
```

# \_\_main\_\_

```
ourlib.py x program1.py x
1 def sq(n):
2     return n*n
3
4
5 print(f'__file__ {__file__}')
6 print(f'__name__ {__name__}')
7
8
9 if __name__ == '__main__':
10     # It will never be true if we did not
11     # run ourlib.py ITSELF
12     print('Script from ourlib')
```

```
__file__ <05_script/ourlib.py
__name__ main
Script from ourlib
```

```
ourlib.py x program1.py x
1 import ourlib
2 print('After importing ourlib')
3
4 print(f'__file__ {__file__}')
5 print(f'__name__ {__name__}')
6
7 # No effect. Loaded once!
8 import ourlib
9 import ourlib
10 import ourlib
11
12 if __name__ == '__main__':
13     # Only the script you run has:
14     # __name__ = 'main'
15     # Otherwise: file name
16     print('Script from program1')
```

```
__file__ <05_script/ourlib.py
__name__ ourlib
After importing ourlib
__file__ <05_script/program1.py
__name__ main
Script from program1
```

*“Acquire knowledge and impart it to the people.”*

*“Seek knowledge from the Cradle to the Grave.”*