



# Python Modules

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## What is a Module?

Consider a module to be the same as a code library.

A file containing a set of functions you want to include in your application.

## Create a Module

To create a module just save the code you want in a file with the file extension `.py` :

### Example

Save this code in a file named `mymodule.py`

```
def greeting(name):  
    print("Hello, " + name)
```

## Use a Module

Now we can use the module we just created, by using the `import` statement:

## Example

Import the module named mymodule, and call the greeting function:

```
import mymodule  
  
mymodule.greeting("Jonathan")
```

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**Note:** When using a function from a module, use the syntax:  
*module\_name.function\_name*.

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## Variables in Module

The module can contain functions, as already described, but also variables of all types (arrays, dictionaries, objects etc):

## Example

Save this code in the file `mymodule.py`

```
person1 = {  
    "name": "John",  
    "age": 36,  
    "country": "Norway"  
}
```

## Example

Import the module named mymodule, and access the person1 dictionary:

```
import mymodule
```

```
a = mymodule.person1["age"]  
print(a)
```

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## Naming a Module

You can name the module file whatever you like, but it must have the file extension `.py`

## Re-naming a Module

You can create an alias when you import a module, by using the `as` keyword:

### Example

Create an alias for `mymodule` called `mx` :

```
import mymodule as mx  
  
a = mx.person1["age"]  
print(a)
```

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# Built-in Modules

There are several built-in modules in Python, which you can import whenever you like.

## Example

Import and use the `platform` module:

```
import platform

x = platform.system()
print(x)
```

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# Using the dir() Function

There is a built-in function to list all the function names (or variable names) in a module. The `dir()` function:

## Example

List all the defined names belonging to the platform module:

```
import platform

x = dir(platform)
print(x)
```

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**Note:** The `dir()` function can be used on *all* modules, also the ones you create yourself.

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## Import From Module

You can choose to import only parts from a module, by using the `from` keyword.

### Example

The module named `mymodule` has one function and one dictionary:

```
def greeting(name):  
    print("Hello, " + name)  
  
person1 = {  
    "name": "John",  
    "age": 36,  
    "country": "Norway"  
}
```

### Example

Import only the `person1` dictionary from the module:

```
from mymodule import person1  
  
print (person1["age"])
```

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**Note:** When importing using the `from` keyword, do not use the module name when referring to elements in the module. Example: `person1["age"]`, **not** `mymodule.person1["age"]`

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# Test Yourself With Exercises

## Exercise:

What is the correct syntax to import a module named "mymodule"?

`mymodule`

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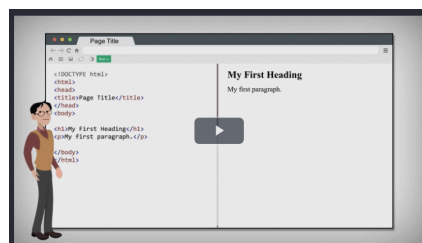
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