Modules

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Built in Modules

2	7	3	4	1	2
3	9	3	7	8	4
5	1	8	9	5	

△ statistics

Use **statistics** to calculate averages or find the most common value in a list of numbers. It's handy if you need to work out an average score in a game.

▷ random

You used this module to make random selections in Password Picker. It's great for adding an element of chance to a game or program.

▷ socket

The **socket** module allows programs to communicate across networks and the Internet. It could be used to create an online game.
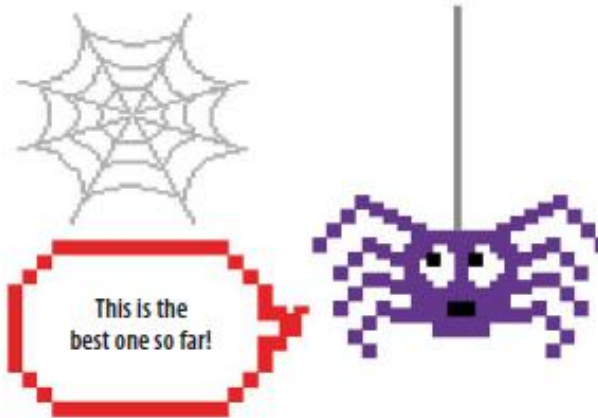
▷ datetime

This module lets you work with dates. You can get today's date, or work out how long it is until a special day.

Sunday **1st**
Monday **2nd**
Tuesday **3rd**
Wednesday **4th** My Birthday

▷ webbrowser

You can control the computer's web browser with this module, allowing you to open web pages directly from your code.

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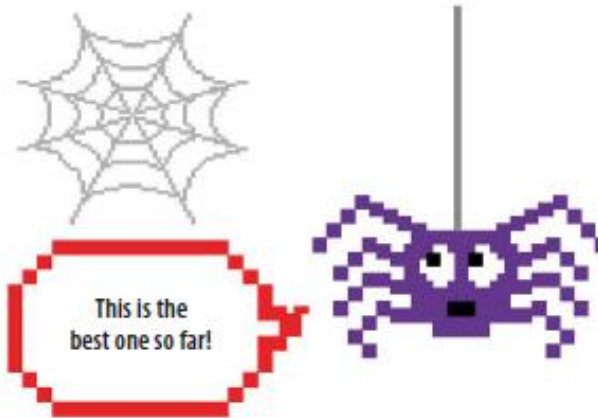▷ **webbrowser**

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Using modules Modules

To use a module in your code, you have to tell Python that you would like to include it.

You instruct Python which modules to include using import statements.

There are a few different ways that you can do this, depending on what you need from the module.

Using modules Modules

▷ import...

Typing the keyword **import** allows you to use all the contents of a module. However, you need to put the module's name before any function you use. This code imports all the **webbrowser ()** module and uses its **open ()** function to open the Python website in the computer's browser.

This line imports the whole **webbrowser** module.

```
>>> import webbrowser
>>> webbrowser.open('https://docs.python.org/3/library')
```

The name of the module comes before the function.

Using modules Modules

▷ from... import...

If you only want to use a particular part of a module, you can import just that part by adding the from keyword. Now you can just use the function name on its own. This code imports the random module's choice () function. The function picks a random item from any list you give it.

```
>>> from random import choice
>>> direction = choice(['N', 'S', 'E', 'W'])
>>> print(direction)

W
```

Only the **choice** function is imported from the **random** module.

No module name is needed.

The code prints a random direction.

Using modules Modules

▷ **from... import... a...**

Sometimes you may want to change the name of an imported module or function, perhaps because you've already used that name or maybe it isn't clear enough. To do this, use the **as** keyword followed by the new name. In the example shown here, the **time ()** function, which we've renamed **time_now ()**, gives us the current time. The time given is the exact number of seconds since 00:00 on January 1, 1970—a date used by most computers as the start of their clock.
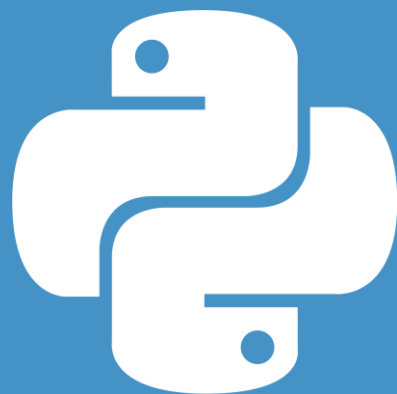
This line imports and renames the **time ()** function.

```
>>> from time import time as time_now
>>> now = time_now ()
>>> print (now)
1478092571.003539
```

This variable uses the function's new name.

The number of seconds since 00:00 on January 1, 1970

Time to code

THE PASSWORD