



Python Arrays

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Note: Python does not have built-in support for Arrays, but [Python Lists](#) can be used instead.

Arrays

Arrays are used to store multiple values in one single variable:

Example

Create an array containing car names:

```
cars = ["Ford", "Volvo", "BMW"]
```

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What is an Array?

An array is a special variable, which can hold more than one value at a time.

If you have a list of items (a list of car names, for example), storing the cars in single variables could look like this:

```
car1 = "Ford";  
car2 = "Volvo";  
car3 = "BMW";
```

However, what if you want to loop through the cars and find a specific one? And what if you had not 3 cars, but 300?

The solution is an array!

An array can hold many values under a single name, and you can access the values by referring to an index number.

Access the Elements of an Array

You refer to an array element by referring to the *index number*.

Example

Get the value of the first array item:

```
x = cars[0]
```

Run example »

Example

Modify the value of the first array item:

```
cars[0] = "Toyota"
```

Run example »

The Length of an Array

Use the `len()` method to return the length of an array (the number of elements in an array).

Example

Return the number of elements in the `cars` array:

```
x = len(cars)
```

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Note: The length of an array is always one more than the highest array index.

Looping Array Elements

You can use the `for in` loop to loop through all the elements of an array.

Example

Print each item in the `cars` array:

```
for x in cars:  
    print(x)
```

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Adding Array Elements

You can use the `append()` method to add an element to an array.

Example

Add one more element to the `cars` array:

```
cars.append("Honda")
```

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Removing Array Elements

You can use the `pop()` method to remove an element from the array.

Example

Delete the second element of the `cars` array:

```
cars.pop(1)
```

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You can also use the `remove()` method to remove an element from the array.

Example

Delete the element that has the value "Volvo":

```
cars.remove("Volvo")
```

Run example »

Note: The `remove()` method only removes the first occurrence of the specified value.

Array Methods

Python has a set of built-in methods that you can use on lists/arrays.

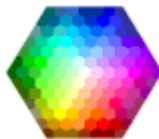
Method	Description
<code>append()</code>	Adds an element at the end of the list
<code>clear()</code>	Removes all the elements from the list
<code>copy()</code>	Returns a copy of the list
<code>count()</code>	Returns the number of elements with the specified value
<code>extend()</code>	Add the elements of a list (or any iterable), to the end of the current list
<code>index()</code>	Returns the index of the first element with the specified value
<code>insert()</code>	Adds an element at the specified position

<code>pop()</code>	Removes the element at the specified position
<code>remove()</code>	Removes the first item with the specified value
<code>reverse()</code>	Reverses the order of the list
<code>sort()</code>	Sorts the list

Note: Python does not have built-in support for Arrays, but Python Lists can be used instead.

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