

How do you add elements to a NumPy array?

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June 28, 2024

RECOMMENDED CITATION

stats writer (2024). *How do you add elements to a NumPy array?*. PSYCHOLOGICAL SCALES. Retrieved from <https://scales.arabpsychology.com/?p=155861>

Adding elements to a NumPy array is a straightforward process that involves utilizing built-in functions and methods. First, you need to initialize a NumPy array using the `np.array()` function, which takes in a list or tuple of elements as its argument. Once the array is created, you can use the `np.append()` function to add new elements at the end of the array. Alternatively, you can use the `np.insert()` function to insert elements at a specific index position. Both these functions return a new array, leaving the original array unchanged. Additionally, you can also use the `+=` operator to add elements to an existing array. Overall, NumPy provides various methods and functions to efficiently add elements to a NumPy array.

Add Elements to NumPy Array (3 Examples)

You can use the following methods to add one or more elements to a NumPy array:

Method 1: Append One Value to End of Array

```
#append one value to end of array  
new_array = np.append(my_array, 15)
```

Method 2: Append Multiple Values to End of Array

```
#append multiple values to end of array  
new_array = np.append(my_array, )
```

Method 3: Insert One Value at Specific Position in Array

```
#insert 95 into the index position 2  
new_array = np.insert(my_array, 2, 95)
```

Method 4: Insert Multiple Values at Specific Position in Array

```
#insert 95 and 99 starting at index position 2 of the NumPy array  
new_array = np.insert(my_array, 2, )
```

This tutorial explains how to use each method in practice with the following NumPy array:

```
import numpy as np  
  
#create NumPy array  
my_array = np.array()  
  
#view NumPy array  
my_array  
  
array()
```

Example 1: Append One Value to End of Array

The following code shows how to use `np.append()` to append one value to the end of the NumPy array:

```
#append one value to end of array
```

```
new_array = np.append(my_array, 15)
```

```
#view new array
```

```
new_array
```

```
array()
```

The value 15 has been added to the end of the NumPy array.

Example 2: Append Multiple Values to End of Array

The following code shows how to use `np.append()` to append multiple values to the end of the NumPy array:

```
#append multiple values to end of array
```

```
new_array = np.append(my_array, )
```

```
#view new array
```

```
new_array
```

```
array()
```

The values 15, 17, and 18 have been added to the end of the NumPy array.

Example 3: Insert One Value at Specific Position in Array

The following code shows how to insert one value into a specific position in the NumPy array:

```
#insert 95 into the index position 2
new_array = np.insert(my_array, 2, 95)

#view new array
new_array

array()
```

The value 95 has been inserted into index position 2 of the NumPy array.

Example 4: Insert Multiple Values at Specific Position in Array

The following code shows how to insert multiple values starting at a specific position in the NumPy array:

```
#insert 95 and 99 starting at index position 2 of the
NumPy array
new_array = np.insert(my_array, 2, )

#view new array
```

new_array

array()

The values 95 and 99 have been inserted starting at index position 2 of the NumPy array.

Additional Resources

The following tutorials explain how to perform other common tasks in NumPy:

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