NumPy linspace()

Summary: in this tutorial, you'll learn how to use the numpy `linspace()` to create a new numpy array with evenly spaced numbers of a specified interval.

Introduction to the numpy linspace() function

The numpy `linspace()` function creates a new numpy array (https://www.pythontutorial.net/python-numpy/create-numpy-array/) with evenly spaced numbers over a given interval:

```
numpy.linspace(start, stop, num=50, endpoint=True, retstep=False, dtype=None, axis=0)
```

The `linspace()` works like the `arange()` (https://www.pythontutorial.net/python-numpy/numpy-arange/) function. But instead of specifying the step size, it defines the number of elements in the interval between the `start` and `stop` values.

For example, the following uses the `linspace()` function to create a new array with five numbers between 1 and 2:

```
import numpy as np

a = np.linspace(1, 2, 5)

print(a)
```

Output:

```
[1.   1.25 1.5  1.75 2.  ]
```

If you don't want to include the `stop` value, you can exclude it using the `endpoint` parameter. For example:

```
import numpy as np

a = np.linspace(1, 2, 5, endpoint=False)
```

```
print(a)
```

Output:

```
[1.  1.2 1.4 1.6 1.8]
```

Note that the `endpoint` is `True` by default. Therefore, the `linspace()` function returns the `stop` as the last sample by default.

Summary

- Use the numpy `linspace()` function to create a numpy array with evenly spaced numbers over a given interval.