Numpy Array Creation

Numpy.empty

As the name specifies, The empty routine is used to create an uninitialized array of specified shape and data type.

The syntax is given below.

1. numpy.empty(shape, dtype = float, order = 'C')

It accepts the following parameters.

- **Shape:** The desired shape of the specified array.
- **dtype:** The data type of the array items. The default is the float.
- **Order:** The default order is the c-style row-major order. It can be set to F for FORTRAN-style column-major order.

1. import numpy as np
2. arr = np.empty((3,2), dtype = int)
3. print(arr)

Output:

```
[[     140482883954664              36917984]
 [     140482883954648      140482883954648]
 [6497921830368665435  172026472699604272]]
```

NumPy.Zeros

This routine is used to create the numpy array with the specified shape where each numpy array item is initialized to 0.

The syntax is given below.

1. numpy.zeros(shape, dtype = float, order = 'C')

It accepts the following parameters.

- **Shape:** The desired shape of the specified array.
- **dtype:** The data type of the array items. The default is the float.
- **Order:** The default order is the c-style row-major order. It can be set to F for FORTRAN-style column-major order.

1. import numpy as np
2. arr = np.zeros((3,2), dtype = int)
3. print(arr)

Output:

```
[[0 0]
 [0 0]
 [0 0]]
```

NumPy.ones

This routine is used to create the numpy array with the specified shape where each numpy array item is initialized to 1.

The syntax to use this module is given below.

1. numpy.ones(shape, dtype = none, order = 'C')

It accepts the following parameters.

- **Shape:** The desired shape of the specified array.
- **dtype:** The data type of the array items.
- **Order:** The default order is the c-style row-major order. It can be set to F for FORTRAN-style column-major order.

1. import numpy as np
2. arr = np.ones((3,2), dtype = int)
3. print(arr)

Output:

```
[[1 1]
 [1 1]
 [1 1]]
```