

Numpy basics:

1. Create a Numpy array filled with all zeros

Syntax: Numpy.zeros() method to do this task

Example:

```
import numpy as np
a = np.zeros(3, dtype = int)
print(a)
```

Task:

Print all zeros in 3X3 matrix using numpy.

2. Create a Numpy array filled with all ones.
3. Create a Numpy array filled with values and print using loop.
4. Create a numpy array to enter the values. {hint: use np.zeros to initialize }

Sample input & output:

```
enter size 3
enter value 1
enter value 2
enter value 3
```

output: [1 2 3]

5. Create a Numpy array and count the occurrence of each element
6. Create a Numpy array and find the count of each element in to array.

A counter is a container that stores elements as dictionary keys, and their counts are stored as dictionary values.

```
import collections
x = np.array([1,2,3,4,5,1,2,1,9,1])
print("Original array:")
counter = collections.Counter(x)
print(counter)
```

7. Create a Numpy array and count occurrences of a Specific Value based on user input.

Syntax: `np.count_nonzero(x == 2)`

8. Create a Numpy array and count number of values in array that are less than 4
9. Create a Numpy array and check whether specified values are present in NumPy array.[hint use IN operator]
10. Create a Numpy array and find the maximum and minimum element.