

write a Python Program for performing basic Numpy Programs

Program:

```
import numpy as np

a = np.array([[1, 2, 4], [5, 8, 7]])

print ("Array created using passed list:\n", a)

b = np.zeros((3, 4))

print ("\nAn array initialized with all zeros:\n", b)

c = np.full((3, 3), 6)

print ("\nAn array initialized with all 6s.\n", c)

d = np.random.random((2, 2))

print ("\nA random array:\n", d)

e = np.arange(0, 30, 5)

print ("\nA sequential array with steps of 5:\n", e)

arr = np.array([[1, 2, 3, 4],
                [5, 2, 4, 2],
                [1, 2, 0, 1]])

newarr = arr.reshape(4, 3)

print ("\nOriginal array:\n", arr)

print ("Reshaped array[4,3]:\n", newarr)

flarr = arr.flatten()

print ("\nOriginal array:\n", arr)

print ("Fattened array:\n", flarr)

print ("\nNo. of dimensions: ", arr.ndim)

print ("\nShape of array: ", arr.shape)
```

```
print("\nSize of array: ", arr.size)

print("\nArray stores elements of type: ", arr.dtype)

newtype=arr.astype('f')

print("\nConverted array elements:\n",newtype)

print("Converted array type:",newtype.dtype)
```