PPML / 240901098 numpy1.ipynb

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179 lines (179 loc) · 5.9 KB

Preview Code Blame Raw

In [2]:
```
#create an array
import numpy as np
a=np.array([[1,2,4],[5,8,7]])
print("Array created:\n",a)
```

```
Array created:
 [[1 2 4]
 [5 8 7]]
```

In [3]:
```
#creating a 3*4 array with all zeros
b=np.zeros((3,4))
print("Array with all zeros:\n",b)
```

```
Array with all zeros:
 [[0. 0. 0. 0.]
 [0. 0. 0. 0.]
 [0. 0. 0. 0.]]
```

In [4]:
```
#create a constant value array
c=np.full((3,3),6)
print("Array with all 6s:\n",c)
```

```
Array with all 6s:
 [[6 6 6]
 [6 6 6]
 [6 6 6]]
```

In [5]:
```
#create an array with random value
d=np.random.random((2,2))
print("Random array:\n",d)
```

```
Random array:
 [[0.52273984 0.90553318]
 [0.8797627  0.47934073]]
```

In [6]:
```
#create a sequence of integers from 0 to 30 with step 5
import numpy as np
e=np.arange(0,30,5)
print(e)
```

```
[ 0  5 10 15 20 25]
```

In [7]:
```
#Reshaping 3*4 array to 2*2*3 array
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)
```

```
Original array:
 [[1 2 3 4]
 [5 2 4 2]
 [1 2 0 1]]
Reshaped array[4,3]:
 [[1 2 3]
 [4 5 2]
 [4 2 1]
 [2 0 1]]
```

In [8]:
```
#flatten array
flarr=arr.flatten()
print("\nOriginal array:\n",arr)
print("\nflattened array:\n",flarr)
```

```
Original array:
 [[1 2 3 4]
 [5 2 4 2]
 [1 2 0 1]]

flattened array:
 [1 2 3 4 5 2 4 2 1 2 0 1]
```

In [15]:
```
#Flatten array
flarr=arr.flatten()
print("\nOriginal array:\n",arr)
print("\nFlattened array:\n",flarr)
import numpy as np
arr=np.array([[1,2,3,4],[5,4,3,7],[6,7,0,1]])
print("\nNo of dimensions:\n",arr.ndim)
print("\nshape of array:\n",arr.shape)
print("\nsize of array:\n",arr.size)
print("\nArray type:\n",arr.dtype)
newtype=arr.astype('f')
print("\nconverted array element:\n",newtype)
print("\nconverted array type:\n",newtype.dtype)
```

```
Original array:
 [[1 2 3 4]
 [5 4 3 7]
 [6 7 0 1]]
```

```
Flattened array:
 [1 2 3 4 5 4 3 7 6 7 0 1]

No of dimensions:
 2

shape of array:
 (3, 4)

size of array:
 12

Array type:
 int32

converted array element:
 [[1. 2. 3. 4.]
 [5. 4. 3. 7.]
 [6. 7. 0. 1.]]

converted array type:
 float32
```

In [16]:

```
import numpy as np
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])
print(p[3:0:-1])
print(p[2,0:2])
print(p[2:,2:])
print(p[3:,3:])
print(p[:1,])
c=p.astype('f')
print(c)
```

```
[[10 11 12]
 [ 7  8  9]
 [ 4  5  6]]
[7 8]
[[ 9]
 [12]
 [15]]
[]
[[1 2 3]]
[[ 1.  2.  3.]
 [ 4.  5.  6.]
 [ 7.  8.  9.]
 [10. 11. 12.]
 [13. 14. 15.]]
```

In [ ]: