```
import numpy as np
a = np.array([[1,2,4],[5,8,7]])
print ("Array created using passed list:\n",a)
```

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

```
b = np.zeros((3,4))
print("nAn array initialized with all zeros:\n",b)
```

```
nAn array initialized with all zeros:
 [[0. 0. 0. 0.]
 [0. 0. 0. 0.]
 [0. 0. 0. 0.]]
```

```
c = np.full((3,3),6)
print("\nAn array initialized with all 6s.\n",c)
```

```
An array initialized with all 6s.
 [[6 6 6]
 [6 6 6]
 [6 6 6]]
```

```
d = np.random.random((2,2))
print("\nA random array:\n",d)
```

```
A random array:
 [[0.81089951 0.34410263]
 [0.55345711 0.47291262]]
```

```
e = np.arange(0,30,5)
print("\n A sequential array with steps of 5:\n",e)
```

```
 A sequential array with steps of 5:
 [ 0  5 10 15 20 25]
```

```
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]]
```

```
flarr = arr.flatten()
print("\nOriginal array:\n",arr)
print("Fattened array:\n",flarr)
```

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

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

```
No. of dimensions: 2
```

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

```
Size of array: (3, 4)
```

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

```
Array stores elements of type: int32
```

```
newtype=arr.astype('f')
print("\nConverted array elements:\n",newtype)
print("Converted array type:",newtype.dtype)
```

```
Converted array elements:
 [[1. 2. 3. 4.]
 [5. 2. 4. 2.]
 [1. 2. 0. 1.]]
Converted array type: float32
```

```
import numpy as np
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])
print(p[30:0:-1])
```

```
[[13 14 15]
 [10 11 12]
 [ 7  8  9]
 [ 4  5  6]]
```

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

```
[7 8]
```

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

```
[[ 9]
 [12]
 [15]]
```

```
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:,3:])
```

```
[]
```

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

```
[ 2  5  8 11 14]
```

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

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

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

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

Start coding or generate with AI.