1.Array creation function

In [1]:
```
import numpy as np
```

In [3]:
```
a=np.array([1,2,3])
print("Array a:",a)
```

```
Array a: [1 2 3]
```

In [6]:
```
b=np.arange(0,10,2)
print("Array b:",b)
```

```
Array b: [0 2 4 6 8]
```

In [8]:
```
c=np.zeros((2,3))
print("Array c:\n",c)
```

```
Array c:
 [[0. 0. 0.]
 [0. 0. 0.]]
```

In [10]:
```
d=np.zeros((2,3),dtype=int)
print("Array d:\n",d)
```

```
Array d:
 [[0 0 0]
 [0 0 0]]
```

In [12]:
```
e=np.ones((3,2))
print("Array e:\n",e)
```

```
Array e:
 [[1. 1.]
 [1. 1.]
 [1. 1.]]
```

In [13]:
```
e=np.ones((3,2),dtype=int)
print("Array e:\n",e)
```

```
Array e:
 [[1 1]
 [1 1]
 [1 1]]
```

In [15]:
```
f=np.eye(4)
print("identity matrix f;\n",f)
```

```
identity matrix f;
 [[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]
```

In [16]:
```
f=np.eye(4,dtype=int)
print("identity matrix f;\n",f)
```

```
identity matrix f;
 [[1 0 0 0]
 [0 1 0 0]
 [0 0 1 0]
 [0 0 0 1]]
```

2.Array Manipulation

In [18]:
```
a1=np.array([1,2,3])
reshaped=np.reshape(a1,(1,3))
print("reshaped array:",reshaped)
```

```
reshaped array: [[1 2 3]]
```

In [20]:
```
a1=np.array([1,2,3])
reshaped=np.reshape(a1,(3,1))
print("reshaped array:\n",reshaped)
```

```
reshaped array:
 [[1]
 [2]
 [3]]
```

In [23]:
```
f1=np.array([[1,2],[3,4]])
flattened=np.ravel(f1)
print("flattened array:",flattened)
```

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

In [24]:
```
f1=np.array([[1,2],[3,4],[7,8],[9,10],[9,5]])
flattened=np.ravel(f1)
print("flattened array:",flattened)
```

```
flattened array: [ 1  2  3  4  7  8  9 10  9  5]
```

In [26]:
```
e1=np.array([[1,2],[3,4],[5,6]])
transpose=np.transpose(e1)
print("transpose array:\n",transpose)
```

```
transpose array:
 [[1 3 5]
 [2 4 6]]
```

In [27]:
```
a2=np.array([1,2])
b2=np.array([3,4])
stacked=np.vstack([a2,b2])
print("stacked array:\n",stacked)
```

```
stacked array:
 [[1 2]
 [3 4]]
```

In [ ]:
```
a2=np.array([1,2])
b2=np.array([3,4])
c2=np.array([5,6])
stacked=np.vstack([a2,b2,c2])
print("stacked array:\n",stacked)
```