In [1]:

```
# Splitting Arrays
# array_split() for splitting arrays
import numpy as np
```

In [ ]:

```
# Split the array in 3 parts:
```

In [2]:

```
a1 = np.array([1, 2, 3, 4, 5, 6])

aa = np.array_split(a1, 3)
aa
```

Out[2]:

```
[array([1, 2]), array([3, 4]), array([5, 6])]
```

In [ ]:

```

```

In [3]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9])

aa = np.array_split(a1, 3)
aa
```

Out[3]:

```
[array([1, 2, 3]), array([4, 5, 6]), array([7, 8, 9])]
```

In [ ]:

```

```

In [4]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9, 10])

aa = np.array_split(a1, 3)
aa
```

Out[4]:

```
[array([1, 2, 3, 4]), array([5, 6, 7]), array([ 8,  9, 10])]
```

In [ ]:

```

```

In [5]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11])

aa = np.array_split(a1, 3)
aa
```

Out[5]:

```
[array([1, 2, 3, 4]), array([5, 6, 7, 8]), array([ 9, 10, 11])]
```

In [ ]:

```

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In [ ]:

```
# Split the array in 4 parts:
```

In [6]:

```
a1 = np.array([1, 2, 3, 4, 5, 6])

aa = np.array_split(a1, 4)
aa
```

Out[6]:

```
[array([1, 2]), array([3, 4]), array([5]), array([6])]
```

In [ ]:

```

```

In [7]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9])

aa = np.array_split(a1, 4)
aa
```

Out[7]:

```
[array([1, 2, 3]), array([4, 5]), array([6, 7]), array([8, 9])]
```

In [ ]:

```

```

In [8]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9, 10])

aa = np.array_split(a1, 4)
aa
```

Out[8]:

```
[array([1, 2, 3]), array([4, 5, 6]), array([7, 8]), array([ 9, 10])]
```

In [ ]:

```

```

In [9]:

```
a1 = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,14])

aa = np.array_split(a1, 4)
aa
```

Out[9]:

```
[array([1, 2, 3, 4]),
 array([5, 6, 7, 8]),
 array([ 9, 10, 11]),
 array([12, 13, 14])]
```

In [ ]:

```

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In [ ]:

```
# Access the splitted arrays:

```

In [10]:

```
a1 = np.array([1, 2, 3, 4, 5, 6])

aa = np.array_split(a1, 3)
aa
```

Out[10]:

```
[array([1, 2]), array([3, 4]), array([5, 6])]
```

In [11]:

```
aa[0]
```

Out[11]:

```
array([1, 2])
```

In [12]:

```
aa[1]
```

Out[12]:

```
array([3, 4])
```

In [13]:

```
aa[2]
```

Out[13]:

```
array([5, 6])
```

In [ ]:

In [14]:

```
# Splitting 2-D Arrays
# returns three 2-D arrays.

b1 = np.array([[1, 2], [3, 4], [5, 6], [7, 8], [9, 10], [11, 12]])

bb = np.array_split(b1, 3)
bb
```

Out[14]:

```
[array([[1, 2],
        [3, 4]]), array([[5, 6],
        [7, 8]]), array([[ 9, 10],
        [11, 12]])]
```

In [ ]:

In [15]:

```
# returns three 2-D arrays.

b1 = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12], [13, 14, 15], [16, 17, 18]])

bb = np.array_split(b1, 4)
bb
```

Out[15]:

```
[array([[1, 2, 3],
        [4, 5, 6]]), array([[ 7,  8,  9],
        [10, 11, 12]]), array([[13, 14, 15]]), array([[16, 17, 18]])]
```

In [ ]:

In [16]:

```
# Split the 2-D array into three 2-D arrays along rows.

b1 = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12], [13, 14, 15], [16, 17, 18]])

bb = np.array_split(b1, 3, axis=1)
bb
```

Out[16]:

```
[array([[ 1],
        [ 4],
        [ 7],
        [10],
        [13],
        [16]]), array([[ 2],
        [ 5],
        [ 8],
        [11],
        [14],
        [17]]), array([[ 3],
        [ 6],
        [ 9],
        [12],
        [15],
        [18]])]
```

In [ ]:

```

```

In [17]:

```
b1 = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12], [13, 14, 15], [16, 17, 18]])

bb = np.array_split(b1, 3, axis=0)
bb
```

Out[17]:

```
[array([[1, 2, 3],
        [4, 5, 6]]), array([[ 7,  8,  9],
        [10, 11, 12]]), array([[13, 14, 15],
        [16, 17, 18]])]
```

In [ ]:

```

```

In [18]:

```
# alternate solution is using hsplit() => Column

b1 = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9], [10, 11, 12], [13, 14, 15], [16, 17, 18]])

bb = np.hsplit(b1, 3)
bb
```

Out[18]:

```
[array([[ 1],
        [ 4],
        [ 7],
        [10],
        [13],
        [16]]), array([[ 2],
        [ 5],
        [ 8],
        [11],
        [14],
        [17]]), array([[ 3],
        [ 6],
        [ 9],
        [12],
        [15],
        [18]])]
```

In [ ]:

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In [ ]:

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In [ ]:

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