

---

```
import numpy as np
```

---

## ✓ np.arange(start,end,step)

```
np.arange(1,10,1)
```

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

```
np.arange(1,20,2)
```

```
array([ 1,  3,  5,  7,  9, 11, 13, 15, 17, 19])
```

```
np.arange(2,20,2)
```

```
↳ array([ 2,  4,  6,  8, 10, 12, 14, 16, 18])
```

## ✓ arr.reshape(rows,cols)

```
a = np.arange(1,100,2)
```

```
a
```

```
array([ 1,  3,  5,  7,  9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33,
       35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67,
       69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99])
```

```
a.reshape(5,10)
```

```
array([[ 1,  3,  5,  7,  9, 11, 13, 15, 17, 19],
       [21, 23, 25, 27, 29, 31, 33, 35, 37, 39],
       [41, 43, 45, 47, 49, 51, 53, 55, 57, 59],
       [61, 63, 65, 67, 69, 71, 73, 75, 77, 79],
       [81, 83, 85, 87, 89, 91, 93, 95, 97, 99]])
```

## ✓ arr.flatten()

```
a.flatten()
```

```
array([ 1,  3,  5,  7,  9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33,
       35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67,
       69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99])
```

## ✓ arr.ravel()

```
a.ravel()
```

```
array([ 1,  3,  5,  7,  9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33,
       35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67,
       69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99])
```

**Flatten:** Creates a copy of the original array, and then flattens it into a 1D array. If you modify the flattened array, the original array remains unchanged.

**Ravel:** Also flattens the array into a 1D array, but it returns a view of the original array whenever possible. If you modify the raveled array, it may affect the original array.

