1 Dimensional Array

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

1 Dimensional Array of Integers

In [ ]:
```
arr1=np.array([x for x in range(1,11)])
print(arr1)
print(type(arr1))
print(f"dimensions of {arr1} is {arr1.shape}")
print(f"type of elements of {arr1} is {arr1.dtype}")
```

```
[ 1  2  3  4  5  6  7  8  9 10]
<class 'numpy.ndarray'>
dimensions of [ 1  2  3  4  5  6  7  8  9 10] is (10,)
type of elements of [ 1  2  3  4  5  6  7  8  9 10] is int32
```

1 Dimensional Array of Strings

In [ ]:
```
arr1=np.array(["Hello","World"])
print(arr1)
print(type(arr1))
print(f"dimensions of {arr1} is {arr1.shape}")
print(f"type of elements of {arr1} is {arr1.dtype}")
```

```
['Hello' 'World']
<class 'numpy.ndarray'>
dimensions of ['Hello' 'World'] is (2,)
type of elements of ['Hello' 'World'] is <U5
```

1 Dimensional Array of Integers and Strings

In [ ]:
```
arr1=np.array(["Hello","World",1,2,3])
print(arr1)
print(type(arr1))
print(f"dimensions of {arr1} is {arr1.shape}")
print(f"type of elements of {arr1} is {arr1.dtype}")
```

```
['Hello' 'World' '1' '2' '3']
<class 'numpy.ndarray'>
dimensions of ['Hello' 'World' '1' '2' '3'] is (5,)
type of elements of ['Hello' 'World' '1' '2' '3'] is <U11
```

2 Dimensional Array

In [ ]:
```
arr2=np.array([
                    [1,2,3],
                    [4,5,6],
                    [7,8,9]
             ])
print(f"{arr2}")
print(f"dimensions of arr2 are {arr2.shape}")
print(f"number of elements of arr2 are {arr2.size}")
print(f"type of elements of arr2 are {arr2.dtype}")
```

```
[[1 2 3]
 [4 5 6]
 [7 8 9]]
dimensions of arr2 are (3, 3)
number of elements of arr2 are 9
type of elements of arr2 are int32
```

1 Dimensional Array with specific Data Type

In [ ]:
```
arr2=np.array([1.2,3.3,5.904,6.5],np.float64)
print(f"{arr2}")
print(f"type of elements of arr2 are {arr2.dtype}")
```

```
[1.2   3.3   5.904 6.5  ]
type of elements of arr2 are float64
```

In [ ]:
```
arr2=np.array([1.2,3,5.904,6.5],np.int64)
print(f"{arr2}")
print(f"type of elements of arr2 are {arr2.dtype}")
```

```
[1 3 5 6]
type of elements of arr2 are int64
```

Saving Array to a File

In [ ]:
```
arr2=np.array([
                    [1,2,3],
                    [4,5,6],
                    [7,8,9]
              ])
# np.save("<file-name>",<name-of-array-variable>)
np.save("numpy_array",arr2)
```

Loading File from an array

In [ ]:
```
loaded_array=np.load("numpy_array.npy")
print(f"{loaded_array}")
print(f"dimensions = {loaded_array.shape}")
print(f"Number of Elements = {loaded_array.size}")
```

```
[[1 2 3]
 [4 5 6]
 [7 8 9]]
dimensions = (3, 3)
Number of Elements = 9
```