**NumPy (Numerical Python)**

**1.Importing NumPy:**

Import NumPy

## 2.Create a NumPy ndarray Object:

## import numpy as np

## arr = np.array([1, 2, 3, 4, 5])

## print(arr)

## print(type(arr))

## OUTPUT:

## [1 2 3 4 5]

## <class 'numpy.ndarray'>

## 3.Creating 3-D Arrays:

## import numpy as np

## arr = np.array([[[1, 2, 3], [4, 5, 6]], [[1, 2, 3], [4, 5, 6]]])

## print(arr)

## OUTPUT:

## [[[1 2 3]

## [4 5 6]]

## [[1 2 3]

## [4 5 6]]]

## 4. Get the first element from the following array:

## import numpy as np

## arr = np.array([1, 2, 3, 4])

## print(arr[0])

## OUTPUT: 1

## 5. Slice elements from index 1 to index 5 from the following array:

## import numpy as np

## arr = np.array([1, 2, 3, 4, 5, 6, 7])

## print(arr[1:5])

## OUTPUT:

## [2 3 4 5]

## 6. Join two arrays:

## import numpy as np

## arr1 = np.array([1, 2, 3])

## arr2 = np.array([4, 5, 6])

## arr = np.concatenate((arr1, arr2))

## print(arr)

## OUTPUT:

## [1,2,3,4,5,6]

## 7. Join two 2-D arrays along rows (axis=1):

## import numpy as np

## arr1 = np.array([[1, 2], [3, 4]])

## arr2 = np.array([[5, 6], [7, 8]])

## arr = np.concatenate((arr1, arr2), axis=1)

## print(arr)

## OUTPUT:

## [[1 2 5 6]

## [3 4 7 8]]

## 8. Splitting NumPy Arrays:

## import numpy as np

## arr = np.array([1, 2, 3, 4, 5, 6])

## newarr = np.array\_split(arr, 3)

## print(newarr)

## OUTPUT:

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