**11.File reading and writing**

import numpy as np

 # Create sample arrays

array1 = np.array([1, 2, 3, 4, 5])

array2 = np.array([[1, 2, 3], [4, 5, 6]])

# Load array from a text file

loaded\_array1 = np.loadtxt('array1.txt')

print("Loaded array1 from 'array1.txt':")

print(loaded\_array1)

**Output:**Loaded array1 from 'array1.txt':

[1. 2. 3. 4. 5.]

# Save array to a text file

np.savetxt('array1.txt', array1)

print("array1 saved to 'array1.txt'.")

**Output:**array1 saved to 'array1.txt'.

**Load array from a binary file**

loaded\_array1\_bin = np.load('array1.npy')

print("Loaded array1 from 'array1.npy':")

print(loaded\_array1\_bin)

Loaded array1 from 'array1.npy':

**Output :** [1 2 3 4 5]

# Save array to a binary file

np.save('array1', array1)

print("array1 saved to 'array1.npy'.")

**Output:** array1 saved to 'array1.npy'.

**12.Boolean operation**

import numpy as np

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

all\_non\_zero=np.all(arr)

any\_non\_zero=np.any(arr)

indices\_greater\_than\_3=np.where(arr>3)

print(f"array:{arr}”)

print(f"np.all(arr):{all\_non\_zero}")

print(f"np.any(arr):{any\_non\_zero}")

print(f"np.where(arr>3):{indices\_greater\_than\_3}")

**Output:** array:[1 2 3 4 5 6]

np.all(arr):True

np.any(arr):True

np.where(arr>3):(array([3, 4, 5])