# Write a program to search the max and min elements in a given array using numpy (Array axis)

import numpy as np

array=np.arange(20).reshape(5,4)

print(array)

print()

print(np.max(array))

print(np.max(array,axis=1))

print(np.max(array,axis=0))

print(np.min(array))

print(np.min(array,axis=1))

print(np.min(array,axis=0))

# Write a program to sort the elements in the given array using Numpy

import numpy as np

a=np.array([[1,2],[6,2],[5,6]])

print(a)

print()

print(np.sort(a))

# Write a program to find the mean of every numpy array in the given list

import numpy as np

a=np.arange(20).reshape(5,4)

print(a)

print()

print(np.mean(a))

print(np.mean(a,axis=0))

print(np.mean(a,axis=1))

# Write a program to add rows and columns in a numpy array

import numpy as np

a=np.array([[3,2,6],[4,12,34],[23,12,67]])

print(a)

print()

nrow=np.array([2,1,8])

ncol=np.array([2,4,5])

narr=np.vstack((a,nrow))

nar = np.column\_stack((a,ncol))

print(narr)

print(nar)

# Wap to reverse a numpy array

import numpy as np

a=np.array([[3,2,6],[4,12,34],[23,12,67]])

print(a)

print()

print(np.fliplr(a))

# Write a program to multiply two matrices in a single line using Np

import numpy as np

a=np.array([[3,2,6],[4,12,34],[23,12,67]])

b=np.array([[2,3,4],[5,2,1],[9,12,5]])

print(a)

print(b)

print()

result=np.array(a)\*np.array(b)

print ("Resultant output array:\n",result)

# Write a program to print the checker board pattern of N x N using Numpy:

import numpy as np

n=8

print("Checkerboard pattern:")

Matrix = np.zeros((n, n), dtype = int)

Matrix[1::2, ::2] = 1

Matrix[::2, 1::2] = 1

for i in range(n):

for j in range(n):

print(Matrix[i][j], end =" ")

print()