Assignment (Day 3)

# Section A – Array Creation and Basics:

## Q1. Take 3 numbers from the user and store them in a NumPy array. Print the array.

Ans) Please refer the below code:

import numpy as np

num = []

for i in range(3):

    n = int(input(f"Enter number {i+1}: "))

    num.append(n)

arr1 = np.array(num)

print(arr1)

## Q2. Create a 1D array of 5 integers using NumPy. Print its size.

Ans) Please refer the code below:

num = []

for i in range(5):

    n = int(input(f"Enter number {i+1}: "))

    num.append(n)

arr2 = np.array([num])

print(np.size(arr2))

## Q3. Create a 2×3 array filled with zeros.

Ans) I’ve tried to make it dynamic so it’ll ask for rows and columns needed. Please follow the code below:

row = int(input("Enter number of rows: "))

col = int(input("Enter number of columns: "))

zero\_arr = np.zeros((row,col))

print(zero\_arr)

## Q4. Create a 3×2 array filled with ones.

Ans) I’ve tried to make it dynamic so it’ll ask for rows and columns needed. Please follow the code below:

row = int(input("Enter number of rows: "))

col = int(input("Enter number of columns: "))

one\_arr = np.ones((row,col))

print(one\_arr)

## Q5. Take 2 integers from the user and create an array. Print its shape.

Ans) I’ve tried to make it dynamic so it’ll ask for something to fill the array with. Also it’ll tell the size of 2 different arrays on the basis if the icon is a number or symbol/alphabet. Please follow the code below:

i = input("Enter icon: ")

if i.isdigit():

    arr3 = np.full((7,5), int(i))

    print(np.shape(arr3))

    print(arr3)

else:

    arr3 = np.full((9,4),i)

    print(np.shape(arr3))

    print(arr3)

# Section B – Array Properties:

## Q1. Create a NumPy array [1, 2, 3, 4]. Print its number of dimensions.

Ans) Please follow the below code:

arr4 = np.array([1, 2, 3, 4, 5])

print(np.ndim(arr4))

## Q2. Take 4 numbers as input, create an array, and print its data type.

Ans) Please follow the below code:

num = []

for i in range(4):

    n = int(input(f"Enter number {i+1}: "))

    num.append(n)

arr5 = np.array([num])

print(np.dtype(arr5))

## Q3. Convert an integer array into float type.

Ans) Please follow the below code:

num1 = int(input("Enter number of elements: "))

num = []

for i in range(num1):

    n = int(input(f"Enter number {i+1}: "))

    num.append(n)

arr6 = np.array([num])

print(np.astype(arr6, float))

# Section C - Arithmetic Operations