……………………………………………………………..Assignment……………………………………………………………………..

1.  Write a NumPy program to create an array of 10 zeros, 10 ones, and 10 fives

//code

import numpy as n

zeros\_array = np.zeros(10) # Create an array of 10 zeros

ones\_array = np.ones(10) # Create an array of 10 ones

fives\_array = np.ones(10) \* 5 # Create an array of 10 fives

# Concatenate the arrays

result\_array = np.concatenate([zeros\_array, ones\_array, fives\_array])

print("Resulting Array:")

print(result\_array)

output: Resulting Array:

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 5. 5. 5. 5.

5. 5. 5. 5. 5. 5.]

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2. Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10.

import numpy as np

# Create a 1D array with values ranging from 2 to 10

values = np.arange(2, 11)

# Reshape the 1D array into a 3x3 matrix

matrix = values.reshape(3, 3)

print("Resulting Matrix:")

print(matrix)

output: Resulting Matrix:

[[ 2 3 4]

[ 5 6 7]

[ 8 9 10]]

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3. Write a NumPy program to create an array with values ranging from 12 to 38.

import numpy as np

# Create an array with values ranging from 12 to 38

array = np.arange(12, 39)

print("Resulting Array:")

print(array)

output: Resulting Array:

[12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

36 37 38]

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4. Write a NumPy program to convert a list and tuple into arrays. Input: my\_list = [1, 2, 3, 4, 5, 6, 7, 8]

Input: my\_tuple = ([8, 4, 6], [1, 2, 3])

//code

import numpy as np

# Input list

my\_list = [1, 2, 3, 4, 5, 6, 7, 8]

# Convert list to array

array\_from\_list = np.array(my\_list)

print("Array from List:")

print(array\_from\_list)

# Input tuple

my\_tuple = ([8, 4, 6], [1, 2, 3])

# Convert tuple to array

array\_from\_tuple = np.array(my\_tuple)

print("\nArray from Tuple:")

print(array\_from\_tuple)

output: Array from List:

[1 2 3 4 5 6 7 8]

Array from Tuple:

[[8 4 6]

[1 2 3]]

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