PYTHON LAB – 17

NUMPY SLICING

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QUESTIONS

1. Write a NumPy program to create an array of 10 zeros, 10 ones, and 10 fives
2. Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10.
3. Write a NumPy program to create an array with values ranging from 12 to 38.
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])

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

```
import numpy as np #importing array
zero = np.zeros(10)*0 #creating an array of 10 zeros
print("The array of 10 zeros is")
print(zero) #printing array
ten = np.ones(10)*1 #creating an array of 10 ones
print("The array of 10 ones is")
print(ten) #printing array
five = np.ones(10)*5 #creating an array of 10 fives
print("The array of 10 fives is")
print(five) #printing array
```

OUTPUT:

The array of 10 zeros is

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

The array of 10 ones is

[1. 1. 1. 1. 1. 1. 1. 1. 1. 1.]

The array of 10 fives is

[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

```
import numpy as np #importing numpy
a = np.array([2,3,4,5,6,7,8,9,10]) #creating array
reshape = a.reshape(3,3) #creating 3X3 matrix
print(reshape) #printing matrix
```

OUTPUT:

```
[[ 2  3  4]
 [ 5  6  7]
 [ 8  9 10]]
```

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

```
import numpy as np #importing numpy
a = np.arange(12,39) #creating array
print(a) #printing array
```

OUTPUT:

[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]

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])

```
import numpy as np #importing numpy
my_list = [1, 2, 3, 4, 5, 6, 7, 8]  #creating list
arr1 = np.array(my_list) #converting list to array
print("List after converting to array")
print(arr1) #printing array
print()
my_tuple = ([8, 4, 6], [1, 2, 3]) #creating array
arr2 = np.array(my_tuple) #converting tuple to
array
print("Tuple after converting to array")
print(arr2) #printing array
```

OUTPUT:

List after converting to array

[1 2 3 4 5 6 7 8]

Tuple after converting to array

[[8 4 6]

[1 2 3]]