SUMANTH S
AF0363570

PYTHON LAB:17 NUMPY SLICING

QUESTIONS:

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

```
import numpy as np
#create an array of 10 zeros, 10 ones, 10 fives using concatenate
array = np.concatenate((np.zeros(10), np.ones(10), np.ones(10)*5))
#print the array
print("The array is = ", array)
```

Output:

The array is = [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.]

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

```
import numpy as np
# Create a 3x3 matrix with values ranging from 2 to 10
matrix = np.arange(2, 11).reshape(3, 3)
# Print the matrix
print("The Matrix is : ")
print( matrix)
```

Output:

The Matrix is :

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

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

```
# Create an array with values ranging from 12 to 38 using arrange function
array = np.arange(12, 39)
# Print the array
print("The array is = ", array)
```

Output:
The array is = [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]

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
my_list = [1, 2, 3, 4, 5, 6, 7, 8]
my_tuple = ([8, 4, 6], [1, 2, 3])
# Convert list to array
array_from_list = np.array(my_list)
print("Array from the said list:")
print(array_from_list)
# Convert tuple to array
array_from_tuple = np.array(my_tuple)
print("\nArray from the said tuple:")
print(array_from_tuple)
```

Output:

Array from the said list:
[1 2 3 4 5 6 7 8]

Array from the said tuple:
[[8 4 6]
 [1 2 3]]