7th Feb Assignment

February 10, 2025

[10]:
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"""1. Write a NumPy program to create an array of 10 zeros, 10 ones, and 10 fives"""
import numpy as np
a = np.zeros(10)
b= np.ones(10)
c= np.ones(10)*5
d = np.concatenate((a,b,c))
print(d)
print(f'The shape of array is: {np.shape(d)}')
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[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.]
The shape of array is: (30,)
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[15]:
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"""2. Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10."""
arr3 = np.arange(2,11).reshape(3,3)
print(arr3)
print(f'The number of dimension in array is: {np.ndim(arr3)}')
print(f'The shape of array is: {np.shape(arr3)}')
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[[ 2  3  4]
 [ 5  6  7]
 [ 8  9 10]]
The number of dimension in array is: 2
The shape of array is: (3, 3)
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[ ]:
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"""3. Write a NumPy program to create an array with values ranging from 12 to 38."""
arr4 = np.arange(12,39)
print(f'The array of values from 12 to 38 is: {arr4}')
print(f'The dimension of array is: {np.ndim(arr4)}')
print(f'The shape of array is: {np.shape(arr4)}')
```

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The array of values from 12 to 38 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]
The dimension of array is: 1
The shape of array is: (27,)
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[24]:
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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])"""
my_list = [1, 2, 3, 4, 5, 6, 7, 8]
my_tuple = ([8, 4, 6], [1, 2, 3])

arr5 = np.array(my_list)
arr6 = np.array(my_tuple)
print(f'The array of list is: {arr5}')
print(f'The array of list is: \n{arr6}')
```

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The array of list is: [1 2 3 4 5 6 7 8]
The array of list is:
[[8 4 6]
 [1 2 3]]
```