2020/2021 First Semester

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| Course Code | DS540 |
| Course Name | Advanced Python for Data Science |
| CRN | 14045 |
| Assignment type | Critical Thinking |
| Module | 05 |
| Assignment Points | 100 |

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**Manipulating NumPy Arrays**

**The project tasks:**

1. This will Create and print a one-dimensional (1-D) with 20 numerical items

import numpy as np  
  
mu\_array = np.array([1, 2, 3, 4, 1408, 1429, 1430, 1432, 1434, 1436, 1441, 1442, 2020, 50, 60, 70, 70, 80, 90, 100])  
print(mu\_array)

Output

[ 1 2 3 4 1408 1429 1430 1432 1434 1436 1441 1442 2020 50

60 70 70 80 90 100]

1. Print the dimension of the array will use ndim

print(mu\_array.ndim)

Output

1

1. Print the array value for index equal 10

print(mu\_array[10])

Output

1441

1. Slice and print the array between 5 and 15 indexes. Include both of the arrays.

print(mu\_array[5:15])

Output

[1429 1430 1432 1434 1436 1441 1442 2020 50 60]

1. Print the data type of the array by using dtype

print(mu\_array.dtype)

Output

int64

1. Make a copy of the array and print it

new\_mu\_array = mu\_array.copy()  
  
print(new\_mu\_array)

Output

[ 1 2 3 4 1408 1429 1430 1432 1434 1436 1441 1442 2020 50

60 70 70 80 90 100]

1. Make a view of the array and print it

view\_mu\_array = mu\_array.view()  
  
print(view\_mu\_array)

Output

[ 1 2 3 4 1408 1429 1430 1432 1434 1436 1441 1442 2020 50

60 70 70 80 90 100]

1. Print the shape of the array

print(mu\_array.shape)

Output

(20,)

1. Reshape the array by using reshape()

reshape\_mu\_array = mu\_array.reshape(2, 10)  
  
print(reshape\_mu\_array)

Output

[[ 1 2 3 4 1408 1429 1430 1432 1434 1436]

[1441 1442 2020 50 60 70 70 80 90 100]]