Unit 2.2 Graded Assignment: Numpy - build matrix

Instructions:

Build a 6x4 matrix of random numbers.

Using slicing, replace rows 5-6 of the matrix so that the 5th row becomes a sum of the 1st and the 3rd row, and the 6th row becomes a sum of the 2nd and the 4th one.

Submitted By:

1. **Syed Muhammad Hammad Irshad (2303.KHI.DEG.032)**
2. **Arshad Shiwani (2303.KHI.DEG.026)**

Solution:

In this assignment we use numpy to create matrix and change position 5 by adding position 1 and 3 similarly for position 6 adding position 2 and 4

```
[1]: import numpy as np

[2]: arr=np.random.randint(5,50,24).reshape(6,4)
     arr

[2]: array([[38, 32, 31, 22],
            [39, 16, 26, 28],
            [26,  6, 18,  8],
            [37, 35, 29, 20],
            [18, 46, 35, 11],
            [19, 10, 25, 37]])

[3]: add_of_1_and_3_row=np.add(arr[0],arr[2])

[4]: add_of_1_and_3_row

[4]: array([64, 38, 49, 30])

[5]: add_of_2_and_4_row=np.add(arr[1],arr[3])

[6]: add_of_2_and_4_row

[6]: array([76, 51, 55, 48])
```

before changing array (position 5 and and position 6)

```
[7]: arr

[7]: array([[38, 32, 31, 22],
            [39, 16, 26, 28],
            [26,  6, 18,  8],
            [37, 35, 29, 20],
            [18, 46, 35, 11],
            [19, 10, 25, 37]])
```

after adding we got this matrix

```
[8]: arr[4]=add_of_1_and_3_row

[9]: arr[4]

[9]: array([64, 38, 49, 30])

[10]: arr[5]=add_of_2_and_4_row

[11]: arr[5]

[11]: array([76, 51, 55, 48])
```

after changing array (position 5 and and position 6)

```
[12]: arr

[12]: array([[38, 32, 31, 22],
             [39, 16, 26, 28],
             [26,  6, 18,  8],
             [37, 35, 29, 20],
             [64, 38, 49, 30],
             [76, 51, 55, 48]])

[ ]:
```