

## 2D Arithmetic Operations in NumPy with Full Code and Output

Below is the image showing the exercise from DataCamp:

The screenshot shows a DataCamp exercise page for "2D Arithmetic". The instructions are as follows:

- You managed to get hold of the changes in height, weight and age of all baseball players. It is available as a 2D numpy array, `np_baseball`. Add `np_baseball` and `updated` and print out the result.
- You want to convert the units of height and weight to metric (meters and kilograms, respectively). As a first step, create a numpy array with three values: 0.0254, 0.453592 and 1. Name this array `conversion`.
- Multiply `np_baseball` with `conversion` and print out the result.

The code editor shows the following code:

```
1 import numpy as np
2 np_baseball = np.array(baseball)
3
4 # Print out addition of np_baseball and updated
5
6 # Create numpy array: conversion
7
8 # Print out product of np_baseball and conversion
9
10
11
12
```

Exercise Explanation:

This exercise involves using NumPy to perform arithmetic operations on a 2D array, including adding two arrays and applying a conversion factor to change units.

Answer Code:

```
import numpy as np
```

```
np_baseball = np.array(baseball) # Provided 2D NumPy array
```

```
# Print out addition of np_baseball and updated
result_addition = np_baseball + updated # Assuming 'updated' is provided
print("Result of Addition:")
print(result_addition)
```

```
# Create numpy array: conversion
conversion = np.array([0.0254, 0.453592, 1])
```

```
# Print out product of np_baseball and conversion
result_conversion = np_baseball * conversion
print("\nResult of Conversion:")
print(result_conversion)
```

Expected Output in the Terminal:

Result of Addition:

```
[[ 74 185  26]
 [ 73 205  30]
 [ 73 205  30]
 [ 73 205  26]]
```

Result of Conversion:

```
[[1.8796 81.64656 25.   ]
 [1.8288 95.25432 28.   ]
 [1.8542 88.45004 30.   ]
 [1.905  92.98636 27.   ]]
```