Exercise: Using Numpy and Scipy

This lesson provides a few exercises to test your understanding of the Python basics for analytics.

Numpy

Create a function which takes that `numpy` 1-D array as input and returns the following (in the same order as listed):

- **Max** - Maximum value in the array
- **Std** - Measure of variation between the elements of an array
- **Sum** - Value obtained as a result of adding all the elements of an array
- **Dot product** - Inner product of the vectors

Try to implement the function below. Feel free to view the solution, after giving it a few shots. Good Luck!
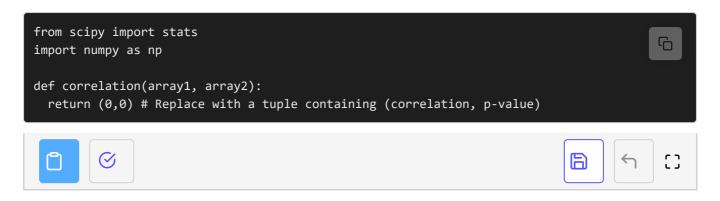
```
import numpy as np

def perform_calculations(array):
    return 0, 0, 0, 0 # Replace with max, std, sum, and dot product
```

Scipy

Create a function that takes in two `numpy` 1-D arrays and returns the `correlation` and `p-value` as a *tuple*.

Try to implement the function below. Feel free to view the solution, after

Try to implement the function below. Feel free to view the solution, after giving it a few shots. Good Luck!

```python
from scipy import stats
import numpy as np

def correlation(array1, array2):
    return (0,0) # Replace with a tuple containing (correlation, p-value)
```

We hope that you were able to solve the challenges. The next lesson brings you the solutions to the above challenges.