2_Arrays_and_matrices

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A brief introduction to working with arrays of numbers in Python.
Last Modified: 23 Jan 2018 Humans Responsible: The Prickly Pythons

1 Lists and Numpy arrays

```
In [1]: # Python has built-in 'lists':
        x = [1, 2, 3]
```

```
In [2]: x
```

```
Out[2]: [1, 2, 3]
```

```
In [3]: # But they don't work as you would expect
        x*2
```

```
Out[3]: [1, 2, 3, 1, 2, 3]
```

```
In [4]: # And most vector-operations fail
        x*2.3
```

```
        ---------------------------------------------------------------------------

        TypeError                                 Traceback (most recent call last)

        <ipython-input-4-c4e56f154bc0> in <module>()
          1 # And most vector-operations fail
        ----> 2 x*2.3


        TypeError: can't multiply sequence by non-int of type 'float'
```

```
In [3]: # Numpy: The module for scientific computing with python
        import numpy as np
```

```
In [22]: x = np.array([1,2,3])
```

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