NumPy

The NumPy library is the core library for scientific computing in Python. It provides a high-performance multidimensional array object, and tools for working with these arrays.

Use the following import convention:
```python
>>> import numpy as np
```

# Creating Arrays

- `a = np.array([1,2,3])` creates an array of zeros
- `a = np.array([1,2,3], dtype=uint8)` creates an array of ones

# Initial Placeholders

- `np.zeros((3,3))` creates an array of empty strings
- `np.empty((3,2))` creates an array of empty strings

# Arithmetic Operations

- `a + b` performs element-wise addition
- `np.multiply(a,b)` performs element-wise multiplication

# Array Mathematics

- `Base NumPy functions` such as `mean`, `max`, and `min`

# Array Manipulation

- `np.concatenate((a,d),axis=1)` concatenates arrays vertically
- `np.insert(a, 1, 10)` inserts an element into an array

# Saving & Loading On Disk

- `np.savez('myfile.npz', a)` saves a dictionary to a `.npz` file

# Asking For Help

- `np.info(np.ndarray.dtype)` displays the documentation for `np.ndarray.dtype`