Week 13

Pre-Lecture Activity: NumPy

Engineering Module: NumPy

What is it?

- a library that provides an array object, and an assortment of routines for fast operations on arrays
- Operations are more efficient, and less code, than Python alone
- Many scientific and mathematical packages use NumPy arrays

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Work through a few exercises from the NumPy website created by SciPy.

A. Open the "**Quickstart Tutorial**" on the NumPy site:

B. Work through the following sections of the tutorial:
   a. **The Basics** (exclude "Indexing, slicing and iteration" section)
   b. **Shape Manipulation** (only work "Changing the shape of an array" section)

For each section:
1. **Read** the information provided
2. **Write** the code provided in your own Python IDE. Add print statements when needed.
3. **Verify** the output (e.g., arrays and values are created or computed as expected)
4. **Modify** the code to see how the various functions behave.

After working through the sections, you should be able to:
a. create arrays of various sizes, and resize as necessary
b. perform basic linear algebra operations (like *dot product*, or *matrix multiply*)