Introduction

A brief introduction to SciPy.

WE'LL COVER THE FOLLOWING

What is SciPy?

If you are a scientist, researcher, or a student doing any kind of data analysis or numeric programming, then Python is worth investing some time in, even just the basics.

Like NumPy, **SciPy** is stable, mature, and widely used. Many SciPy routines are thin wrappers around industry-standard Fortran libraries such as LAPACK, BLAS, etc. It's not really necessary to learn SciPy as a whole. A more common approach is to get some idea of what's in the library and then look up documentation as required.

SciPy and NumPy

SciPy is a package that contains various tools that are built on top of NumPy, using its array data type and related functionality.

Let's plot $y = sin(x)$ in NumPy and in SciPy:

NumPy

```
import numpy as np
import matplotlib.pyplot as plt

x = np.arange(0, 2 * np.pi, 0.1)
y = np.sin(x)

plt.plot(x, y)
```

SciPy

```
import scipy as sc
import matplotlib.pyplot as plt

x = sc.arange(0, 2 * sc.pi, 0.1)
y = sc.sin(x)

plt.plot(x, y)
```

In the next lesson, we will learn about numerical integration.