

# notebook

March 18, 2015

## 1 NumPy and Matplotlib examples

First import NumPy and Matplotlib:

```
In [1]: %pylab inline
```

Welcome to pylab, a matplotlib-based Python environment [backend: module://IPython.kernel.zmq.pylab.backend\_inline].  
For more information, type 'help(pylab)'.

```
In [2]: import numpy as np
```

Now we show some very basic examples of how they can be used.

```
In [6]: a = np.random.uniform(size=(100,100))
```

```
In [7]: a.shape
```

```
Out[7]: (100, 100)
```

```
In [8]: evs = np.linalg.eigvals(a)
```

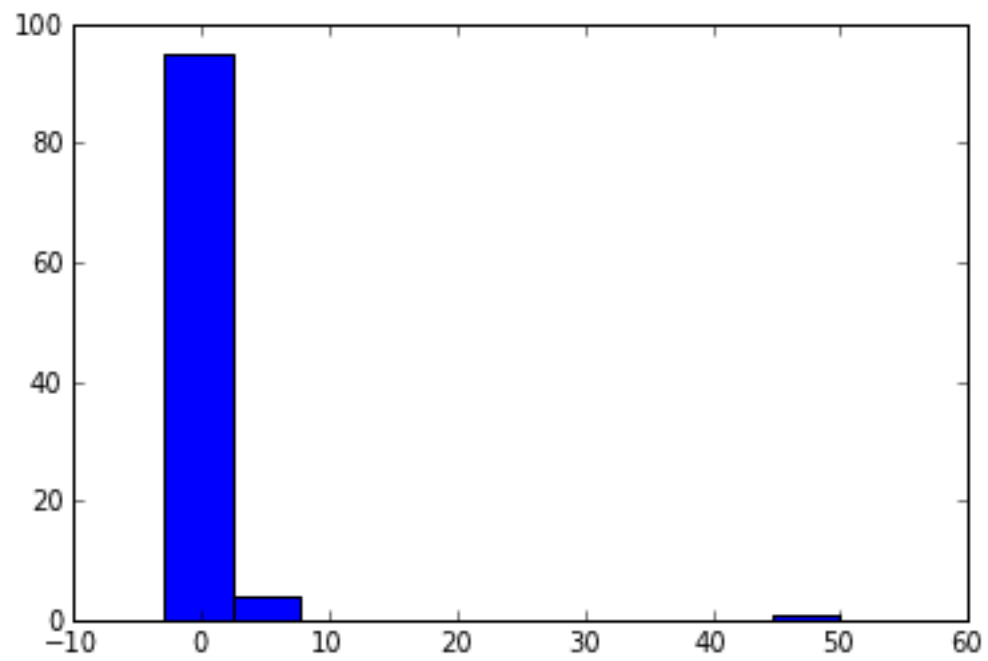
```
In [10]: evs.shape
```

```
Out[10]: (100,)
```

Here is a cell that has both text and PNG output:

```
In [14]: hist(evs.real)
```

```
Out[14]: (array([95,  4,  0,  0,  0,  0,  0,  0,  0,  1]),  
          array([-2.93566063,  2.35937011,  7.65440086, 12.9494316 ,  
                18.24446235, 23.53949309, 28.83452384, 34.12955458,  
                39.42458533, 44.71961607, 50.01464682]),  
          <a list of 10 Patch objects>)
```



In [] :