```
import pandas as pd
import numpy as np
import random
from math import cos,sin,pi,floor,ceil
import matplotlib as mpl
import matplotlib.pyplot as plt
```

So, its time to make histograms in Jupyter. If you haven't already, you should have made some in excel.

```
data = pd.read_csv('https://raw.githubusercontent.com/fearlab/Datasets/master/2MuonMas
```

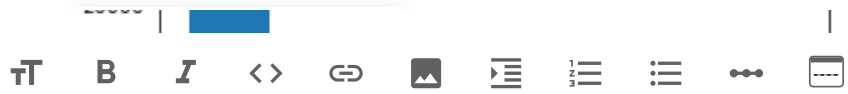
```
data.head
```

```
<bound method NDFrame.head of            Mass
0       2.73205
1       3.10256
2       9.41149
3       7.74702
4       8.67727
...         ...
99995   6.61359
99996   9.37972
99997  22.78810
99998  12.85460
99999   2.79810

[100000 rows x 1 columns]>
```

```
plt.hist(data['Mass'], 15)
#plt.hist(data['Mass'], , range=[3000, 5000])
```

```
(array([5.6497e+04, 2.7304e+04, 9.9900e+03, 3.3980e+03, 1.1700e+03,
        5.1000e+02, 2.6900e+02, 1.3900e+02, 1.0000e+02, 9.8000e+01,
        8.4000e+01, 1.0100e+02, 2.5400e+02, 5.2000e+01, 3.4000e+01]),
 array([  2.00003   ,   9.19849467,  16.39695933,  23.595424  ,
         30.79388867,  37.99235333,  45.190818  ,  52.38928267,
```

```
---------------------------------------------------------------------------
-
NameError                                 Traceback (most recent call
last)
<ipython-input-2-82a62eadeb1f> in <module>()
----> 1 plt.hist(data['Mass'], 15, range=[30000, 40000])

NameError: name 'plt' is not defined
```



```
**Where did you find bumps?**:
> 50,000 - a little over 10,000

**Look up the value in google and tell me

> Preon? Not sure if I did this correctly
with 50,000.

**Who discovered it and when?**
> Haim Harari and Michael A. Shupe in 1979
```

Where did you find bumps?:

> 50,000 - a little over 10,000

Look up the value in google and tell me which particle you discovered?

> Preon? Not sure if I did this correctly but that is what comes up the most with 50,000.

Who discovered it and when?

> Haim Harari and Michael A. Shupe in 1979.

✓ 0s completed at 11:18 PM