PHYS 290 - Atrium Data

This shows about 5 years of PHYS 290 atrium height measurements

The data is in a simple text file. Lets read it in here and check that the results are OK.

```python
In [5]: import pandas as pd
        f = pd.read_csv('atrium.txt')   # Read CSV file
        # Make sure data looks OK
        f[:3]
```
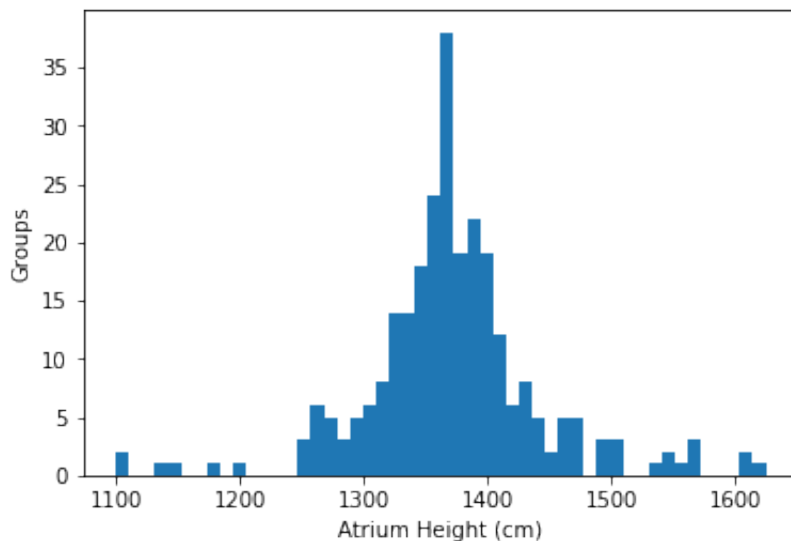
Out[5]:

	Height
0	1490.0
1	1570.0
2	1320.0

Make a histogram of this data to see what we have.

```python
In [7]: %matplotlib inline
        import matplotlib.pyplot as plt

        height = f['Height']
        num_bins = 50
        plt.hist(height, num_bins)
        plt.xlabel('Atrium Height (cm)')
        plt.ylabel('Groups')
        plt.show()
```

Find the mean of the distribution

```
In [8]:  from statistics import mean
         print(mean(f['Height']))
```

1372.325278810409

```
In [9]:  from statistics import stdev
         print (stdev(f['Height']))
```

71.47738104035705

```
In [13]:  import math
          print (len(f['Height']))
          print (stdev(f['Height'])/math.sqrt(len(f['Height'])))
```

269
4.358052837765947

Height of the atrium is then: 1372 ± 4 cm