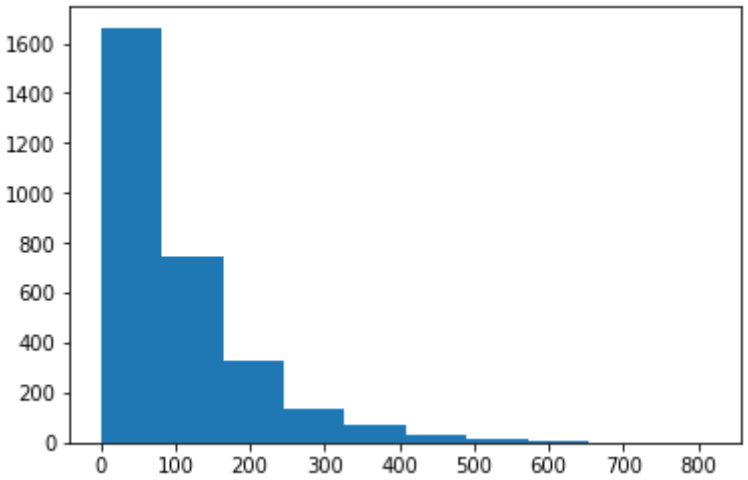
Law of Large Numbers Example

Use the dataset below stored in `pop_data` to answer the following questions, and complete the following quiz questions.

In [1]:
```
import numpy as np
import matplotlib.pyplot as plt

%matplotlib inline
np.random.seed(42)

pop_data = np.random.gamma(1,100,3000)
plt.hist(pop_data);
```



1. What is the the number of data values in our population dataset?

In [2]:
```
len(pop_data)
```

Out[2]:
```
3000
```

2. What is the population mean?

In [3]:
```
np.mean(pop_data)
```

Out[3]:
```
100.35978700795846
```

3. Use numpy's **random.choice** to simulate 5 draws from the `pop_data` array. What is sample mean?

In [4]:
```
sample = np.random.choice(pop_data, 5)
np.mean(sample)
```

Out[4]:
```
27.685829640608965
```

4. Use numpy's **random.choice** to simulate 20 draws from the `pop_data` array. What is

sample mean?

In [5]:
```
sample2 = np.random.choice(pop_data, 20)
np.mean(sample2)
```

Out[5]:
```
163.3701520126447
```

5. Use numpy's **random.choice** to simulate 100 draws from the `pop_data` array. What is sample mean?

In [6]:
```
sample3 = np.random.choice(pop_data, 100)
np.mean(sample3)
```

Out[6]:
```
119.55076984115861
```

In [ ]:

In [ ]: