

How Much Is Enough?

Lecturer: John Guttag



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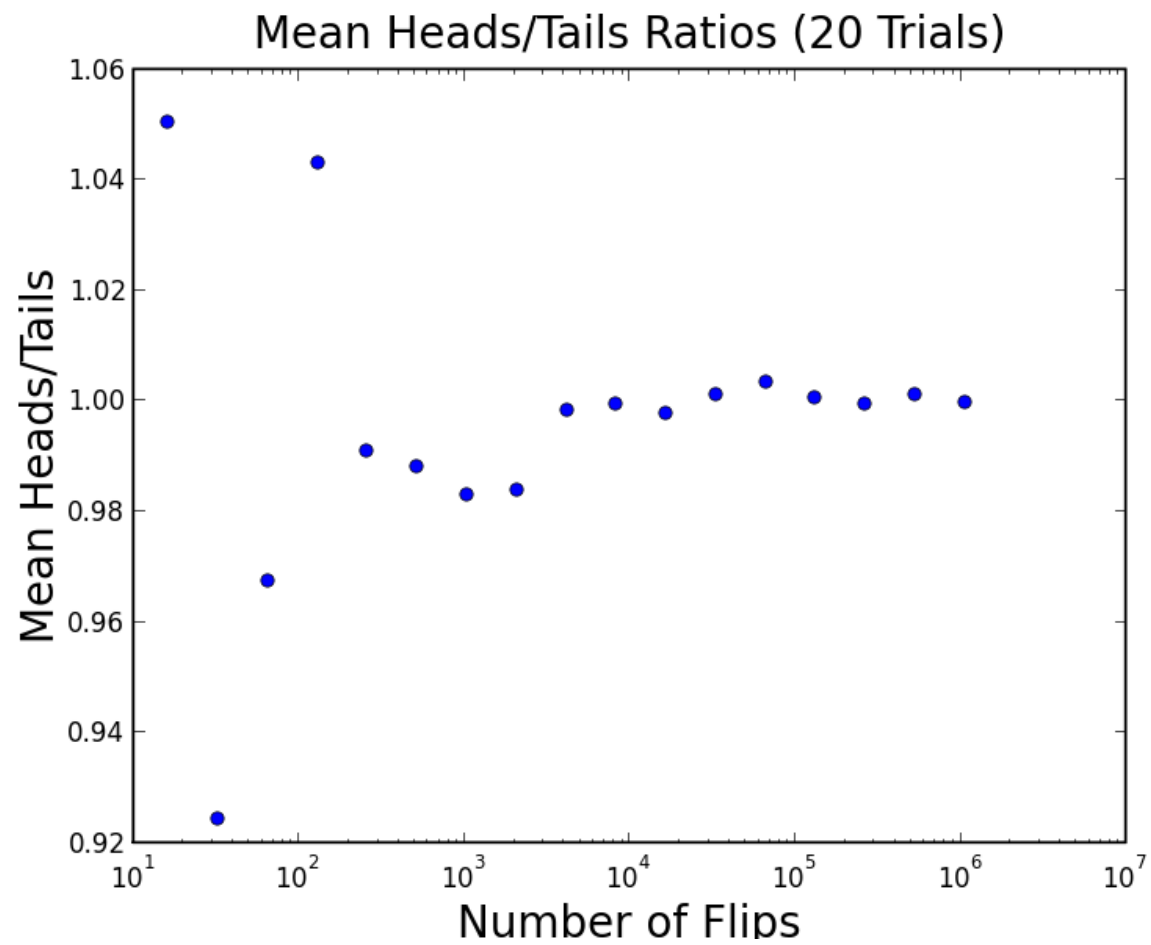
How many samples do we need to look at in order to have a justified confidence that something that is true about the population of samples is also true about the population from which the samples were drawn?

Depends upon the variance in the underlying distribution

Variance

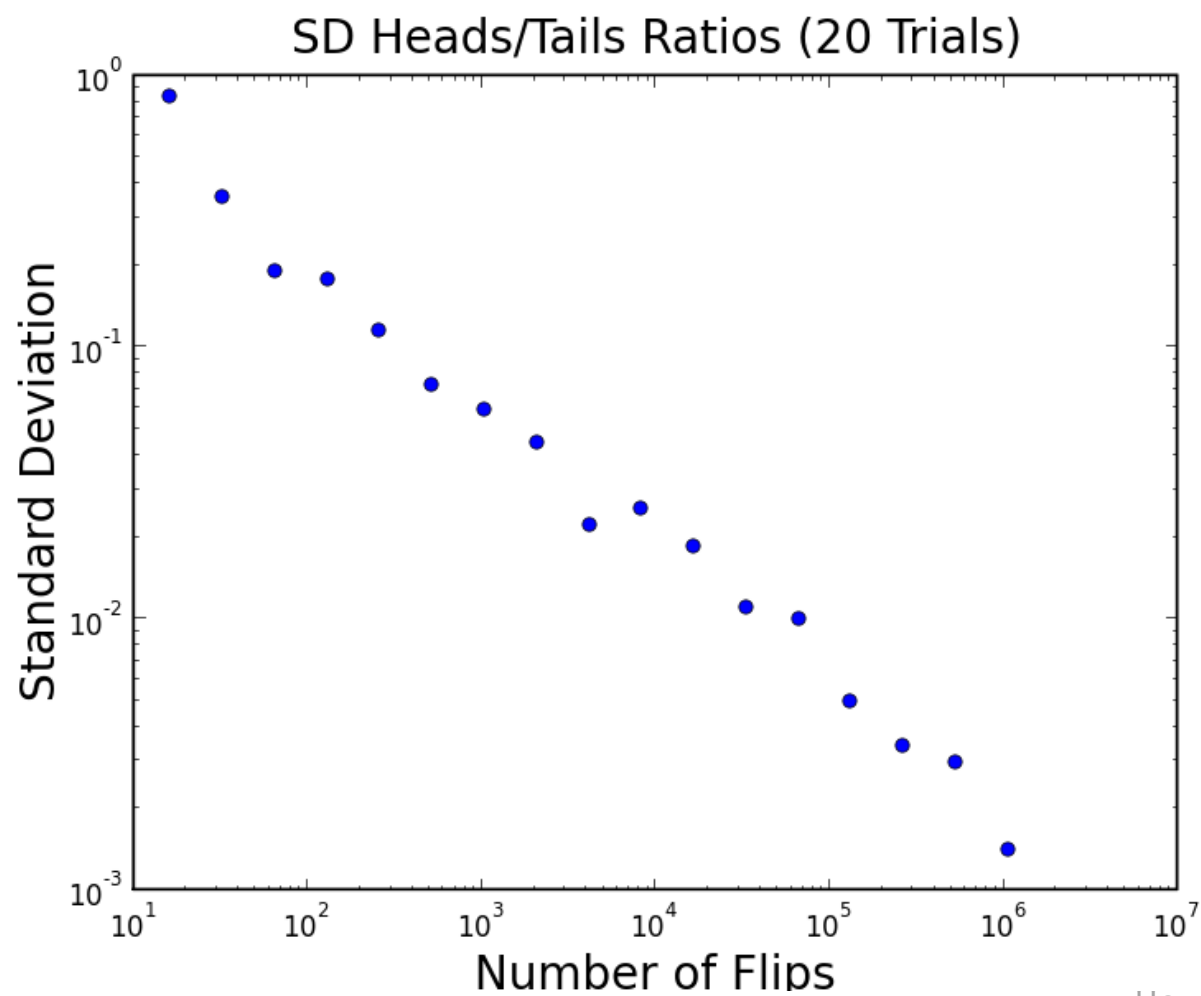
We measure the amount of variance in the outcomes of multiple trials.

```
def stdDev(X):  
    mean = sum(X)/float(len(X))  
    tot = 0.0  
    for x in X:  
        tot += (x - mean)**2  
    return (tot/len(X))**0.5
```



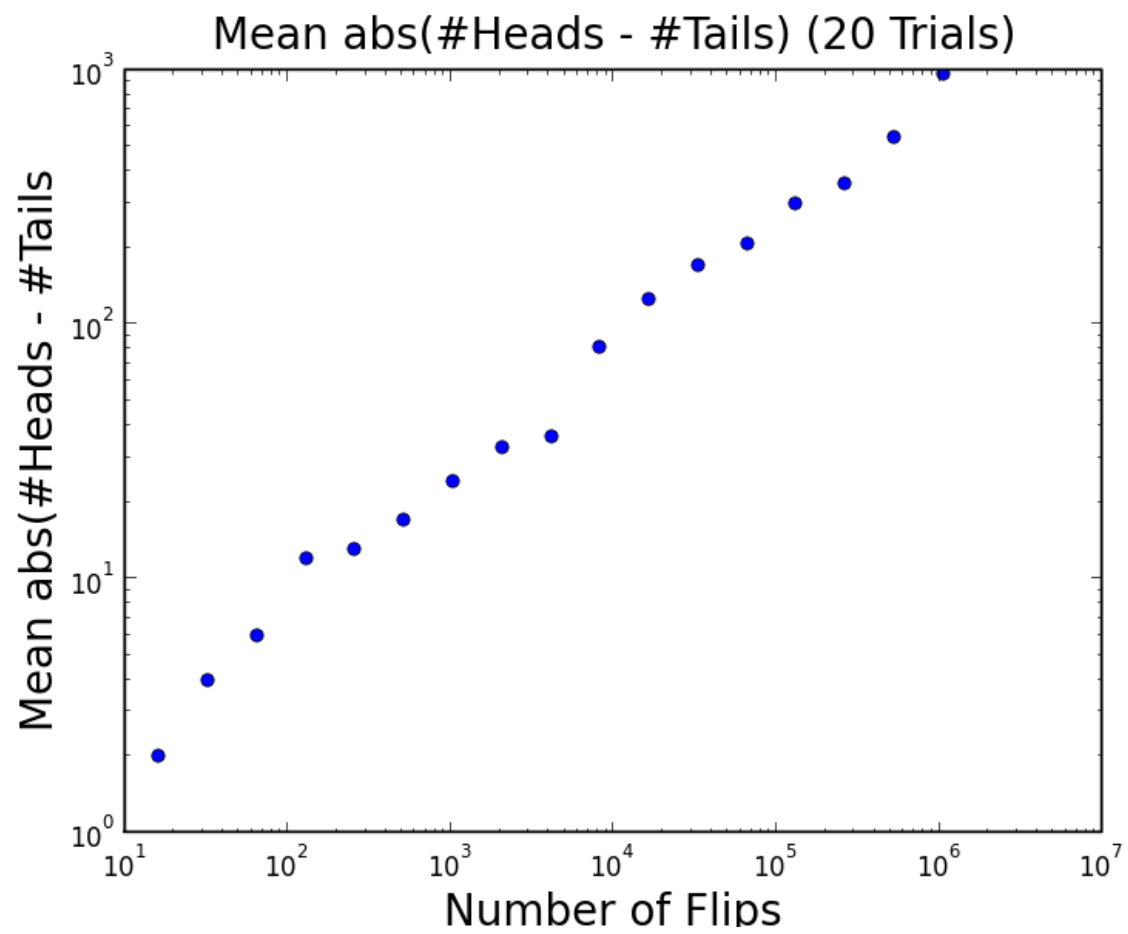
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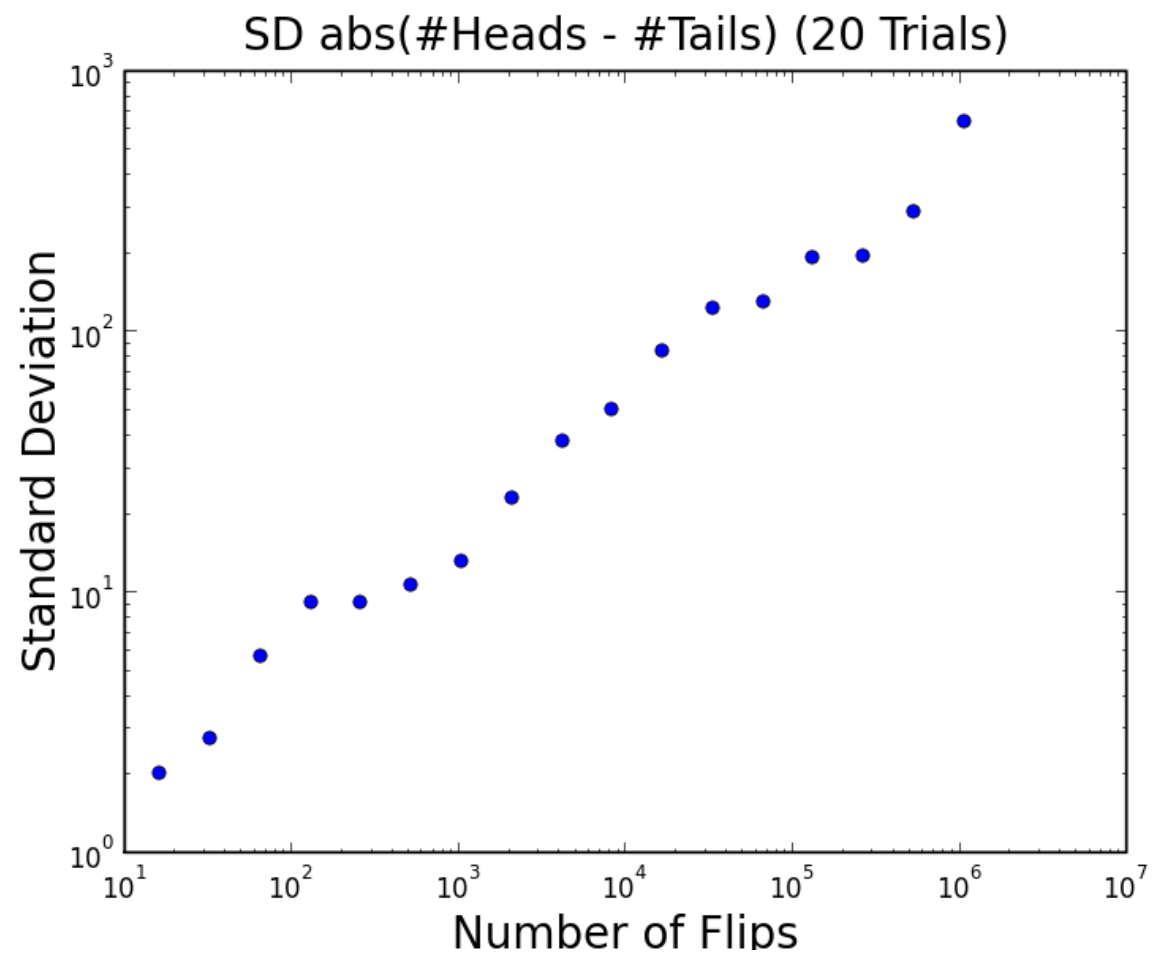
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