

## Sampling Simulation worksheet

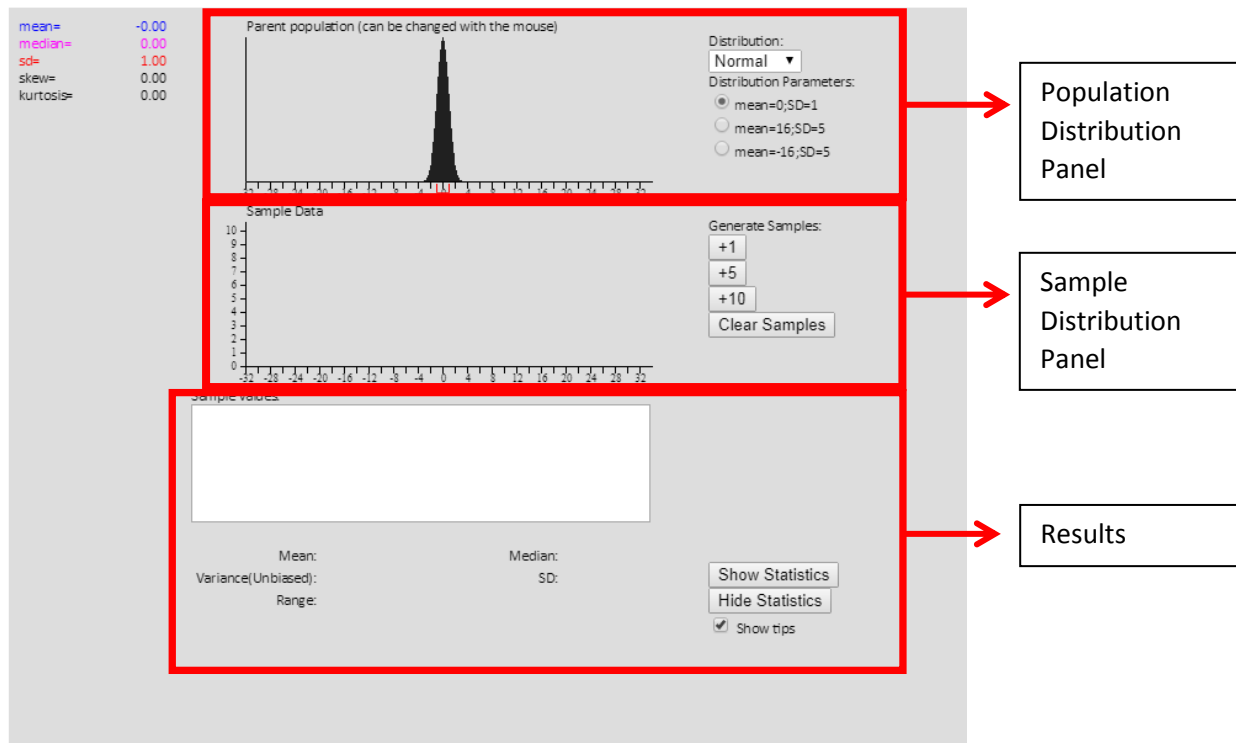
The objective of this worksheet is to help you get comfortable with the Sampling Simulation.

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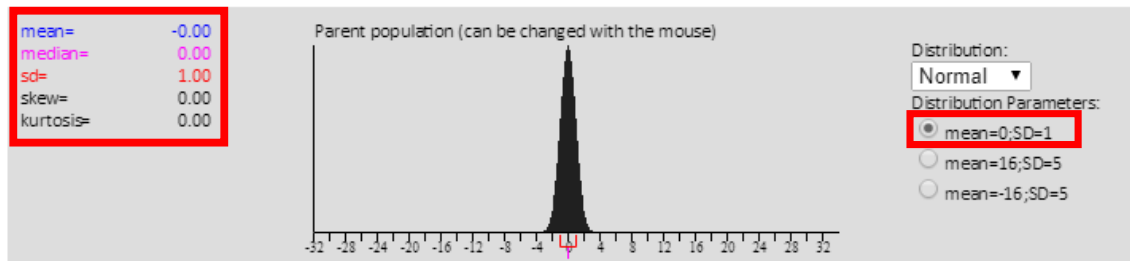
## Introduction to Sampling Simulation interface

### [Simulation] Sampling Simulation with notes



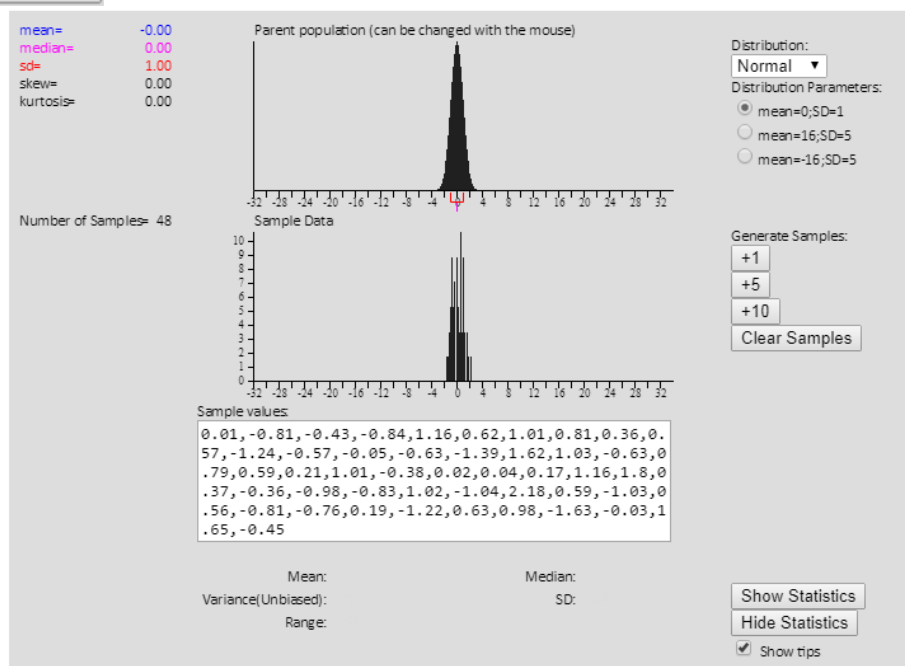
## Draw samples from Normal Distribution

1. Select Normal in Distribution and mean=0;SD=1:

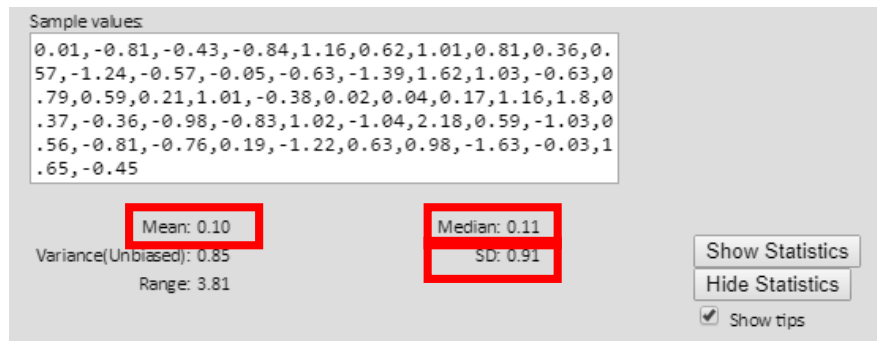


2. Click on **+1** or **+5** or **+10** to add samples. You can clear the samples by clicking

**Clear Samples**

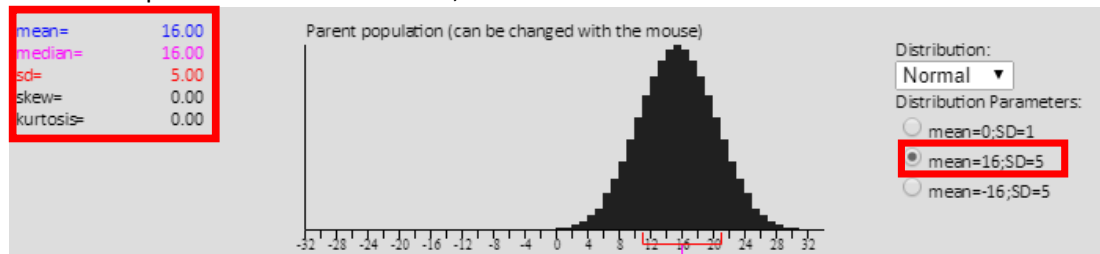


3. Click **Show Statistics** to observe the mean, variance, range, median and SD (standard deviation) as follow:

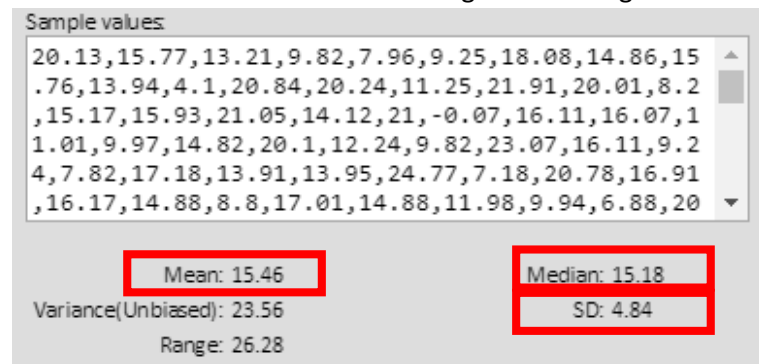


We can observe the sample mean is 0.10, sample standard deviation is 0.91. When we increase the sample size, these sample statistics will approach to population parameters (mean = 0, SD = 1).

4. Clear the samples and select mean = 16, SD = 5:

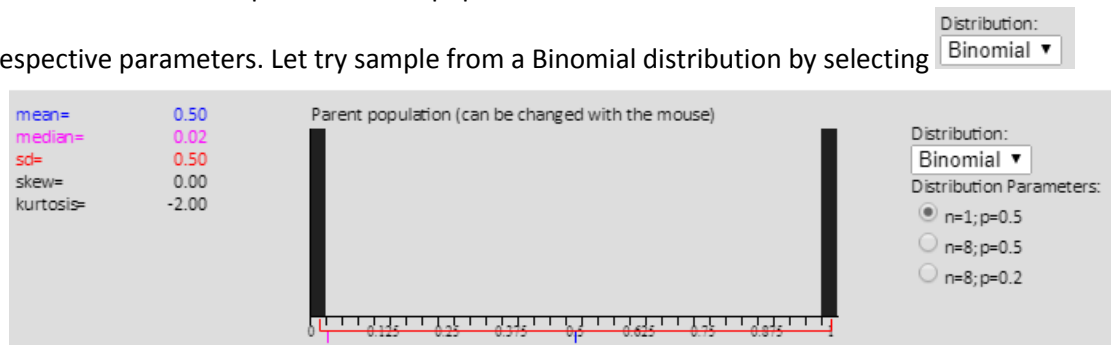


5. Add 200 samples and click show statistics. You should get something as follow:

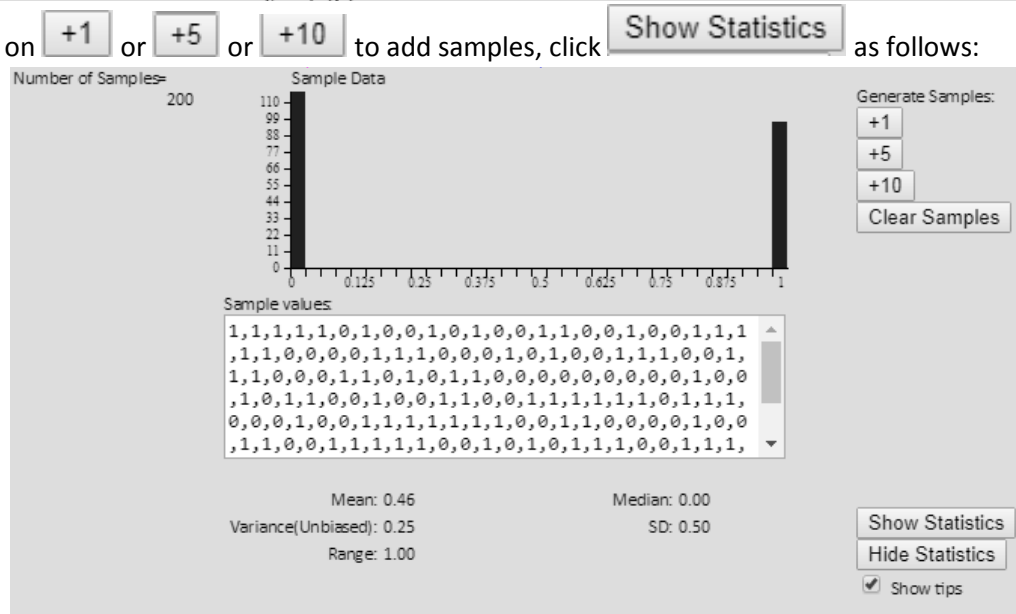


## Draw samples from other Distribution

1. You can also take sample from other population. Such as 'Binomial' or 'Poisson' with their respective parameters. Let try sample from a Binomial distribution by selecting



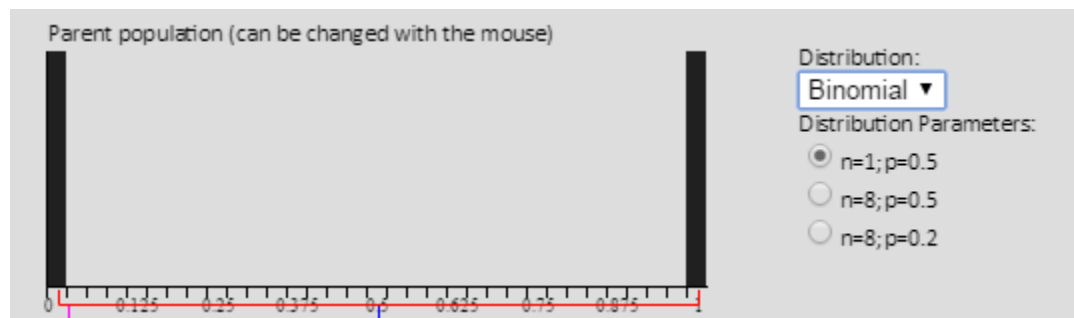
2. Click on **+1** or **+5** or **+10** to add samples, click **Show Statistics** as follows:



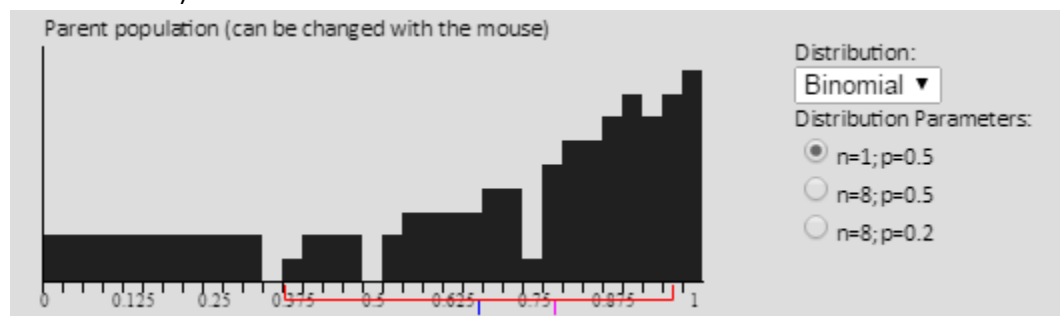


## Draw samples from an arbitrary distribution

1. Select Distribution: Binomial ▼ or Distribution: Poisson ▼



2. Draw on the parent population graph with whatever you like (by clicking, holding and dragging left mouse button)



3. Repeat the sampling process and you will get the statistics of the arbitrary results

