# Sampling and Inference

Referenced from lesson [Randomness and Sample Size](https://www.bootstrapworld.org/materials/spring2021/en-us/courses/data-science/lessons/random-samples/index.shtml) (Spring, 2021)

1. Evaluate the big-animals-table in the Interactions Area. This is the *complete* population of animals from the shelter! Below is a true statement about that population:

**The population is 47.7% fixed and 52.3% unfixed.**

**Type each of the following lines into the Interactions Area and hit “Enter".**

random-rows(big-animals-table, 10)  
random-rows(big-animals-table, 40)

1. What do you get?
2. What is the contract for random-rows?
3. What does the random-rows function do?
4. In the Definitions Area, define small-sample and large-sample to be these two random samples.
5. Make a pie-chart for the animals in each sample, showing percentages of fixed and unfixed.

* The percentage of fixed animals in the entire population is **47.7%**.
* The percentage of fixed animals in small-sample is .
* The percentage of fixed animals in large-sample is .

1. Make a pie-chart for the animals in each sample, showing percentages for each species.

* The percentage of tarantulas in the entire population is **roughly 5%**.
* The percentage of tarantulas in small-sample is .
* The percentage of tarantulas in large-sample is .

1. Click "Run" to direct the computer to generate a different set of random samples of these sizes. Make a new pie-chart for each sample, showing percentages for each species.

* The percentage of tarantulas in the entire population is **roughly 5%**.
* The percentage of tarantulas in small-sample is .
* The percentage of tarantulas in large-sample is .

1. Which repeated sample gave us a more accurate inference about the whole population? Why?

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