

Table Number: _____

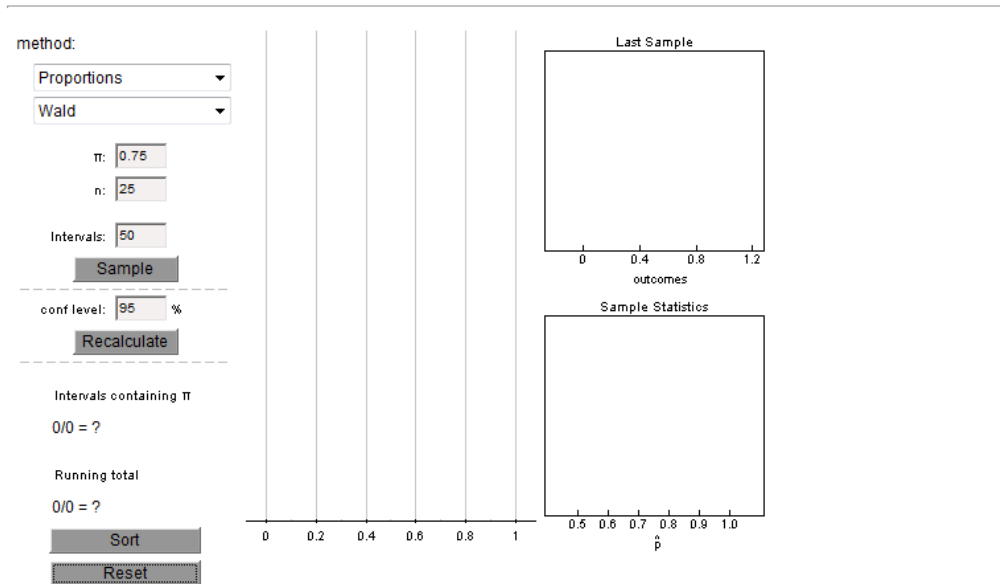
Group Name: _____

Group Members: _____

Confidence Intervals for a Proportion

Go to <http://www.rossmanchance.com/applets/NewConfsim/Confsim.html> The applet allows one to visually investigate confidence intervals for a proportion. This link is in the Chapter 7 folder in the Course Materials folder on Blackboard.

Simulating Confidence Intervals (Click [here](#) for a javascript version of this applet.)



Specify the sample size n and the true proportion π . When you click the **Sample** button, 50 separate samples of size n will be selected from a population with a proportion of successes equal to π . For each of the 50 samples, a **95% confidence interval** is displayed in the plot to the right. Each of these intervals is computed based using the standard normal approximation. If an interval **does not contain** the true proportion, it is displayed in red. Additional simulations can be carried out by clicking the **Simulate** button multiple times. The cumulative number of times that each type of interval contains the true proportion is also tabled. Press the **Reset** button to clear existing results and start a new simulation. Things to try with the applet:

1. Simulate at least 25 intervals with $n = 30$ and $p = 0.5$. What proportion of the 95% confidence intervals contain 0.5?
2. Repeat #1 except simulate at least 1000 intervals. What proportion of the 95% confidence intervals contain 0.5?

