

- A: By increasing δ , we can see more information in each range. For instance, image 4 is more precise than image 2. By increasing n , the sampling size is larger, the more narrow the bar graph is.
- A: Different n implies different ways of sampling, the mean of sampling means is always equal to the population mean no matter how n changes. The smaller the δ is, the PMF is closer to the true sampling distribution of mean, and $E[X]$ is closer to the population mean.
- A: As we only use the left bound of the ranges, the mean of the PMF is affected by the size of bins, which is δ . If δ is smaller, we can get more precise estimator of population mean. Different sampling size does not effect the mean of the true sampling distribution, but has influence on the variance of sampling distribution.