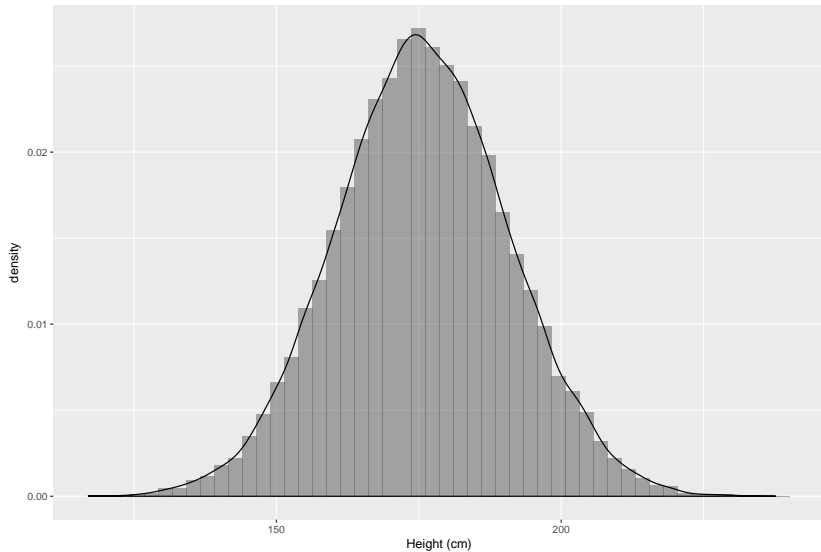


# Confidence intervals

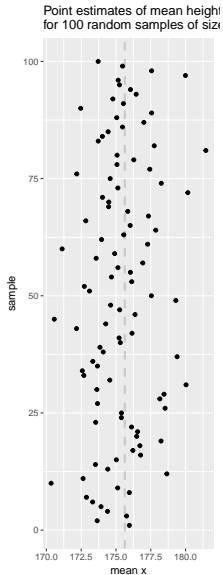
Paul M. Magwene

# Population of interest

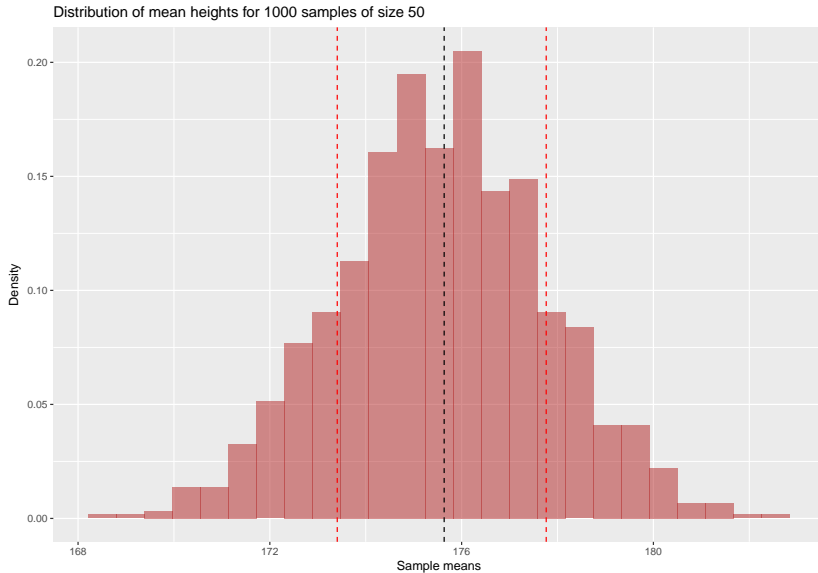
Distribution of Heights in the Population of Interest



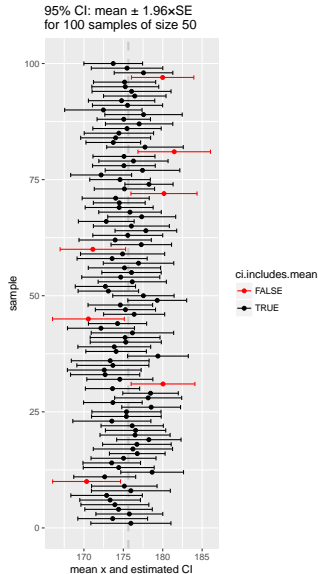
# Point estimates of the mean for random samples of size 50



# Sampling distribution of the mean



# 95% Confidence intervals for the mean for random samples of size 50



# Interpreting confidence intervals

From NIST page on confidence intervals:

*As a technical note, a 95 % confidence interval does not mean that there is a 95 % probability that the interval contains the true mean. The interval computed from a given sample either contains the true mean or it does not. Instead, **the level of confidence is associated with the method of calculating the interval** ... That is, for a 95% confidence interval, if many samples are collected and the confidence interval computed, in the long run about 95% of these intervals would contain the true mean.*