Bootstrap Confidence Intervals

Part 1b - Bootstrap Percentile Confidence Intervals

Gestation Times

We have data that contains a record of every baby born in December 1998 in the United States. For each baby, we have recordings of several different variables - for today, let's focus on the baby's gestation time in weeks (how many weeks pregnant the mother was when she gave birth).

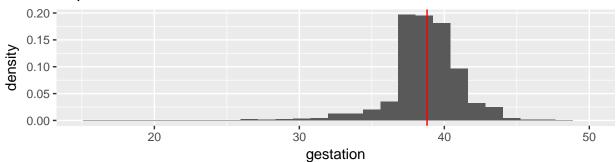
Since we have data for (almost) every baby born in the United States in December 1998, we are in the rare situation where we have data for a full population! Let's use this to study what's going on with the bootstrap.

Suppose we are interested in the mean gestation time in the population of births in December 1998, and pretend that we just had data from a sample of size 50.

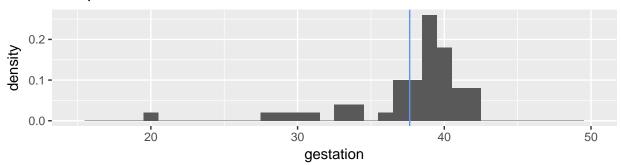
[1] 38.80948

[1] 37.64

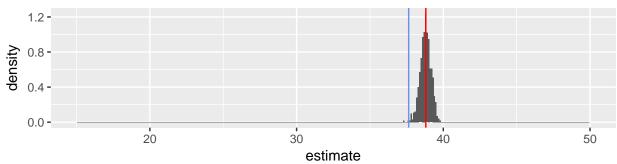
Population: 330717 babies



Sample of 50 babies



Sample means for 1000 samples of 50 babies from population



Sample means for 1000 samples of 50 babies from sample (with replacement

