

15.2: Simulating the Maximum Finishing Time

Let's simulate 150 samples, collecting the maximum value from each sample, and then plotting the distribution of maxima.

```
# sample maximum value 5000 times and compute 99th percentile
nRuns <- 5000
sampSize <- 150

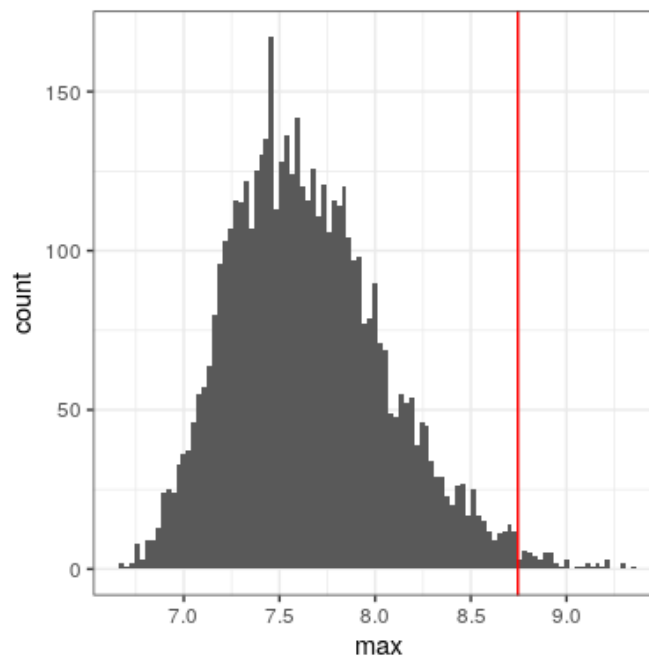
sampleMax <- function(sampSize = 150) {
  samp <- rnorm(sampSize, mean = 5, sd = 1)
  return(tibble(max=max(samp)))
}

input_df <- tibble(id=seq(nRuns)) %>%
  group_by(id)

maxTime <- input_df %>% do(sampleMax())

0.99cutoff <- quantile(maxTime$max, )

ggplot(maxTime, aes(max)) +
  geom_histogram(bins = 100) +
  geom_vline(xintercept = cutoff, color = "red")
```



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