Homework 1 (part 2)

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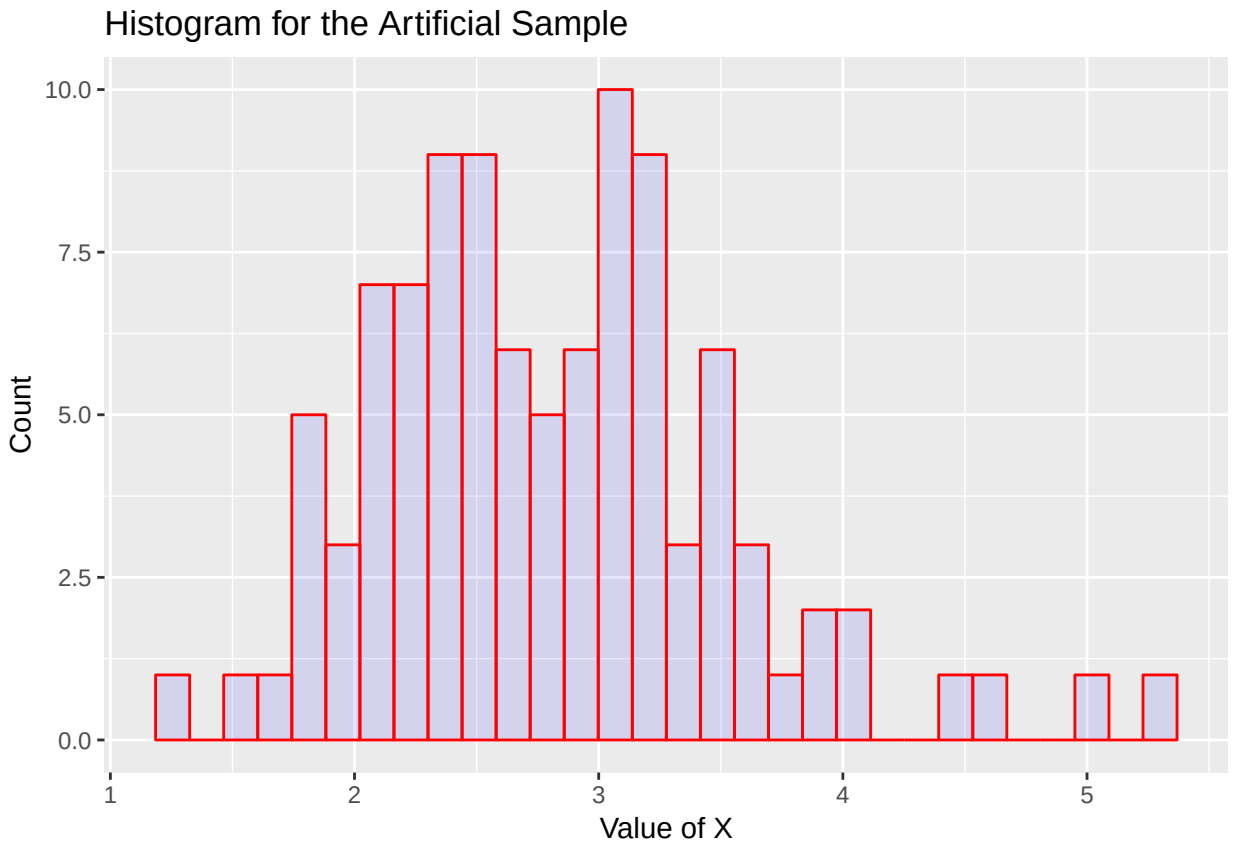
This is a quick introductory exercise to publish a reproducible Rmarkdown document to github.

Artificial Sample Generation of X

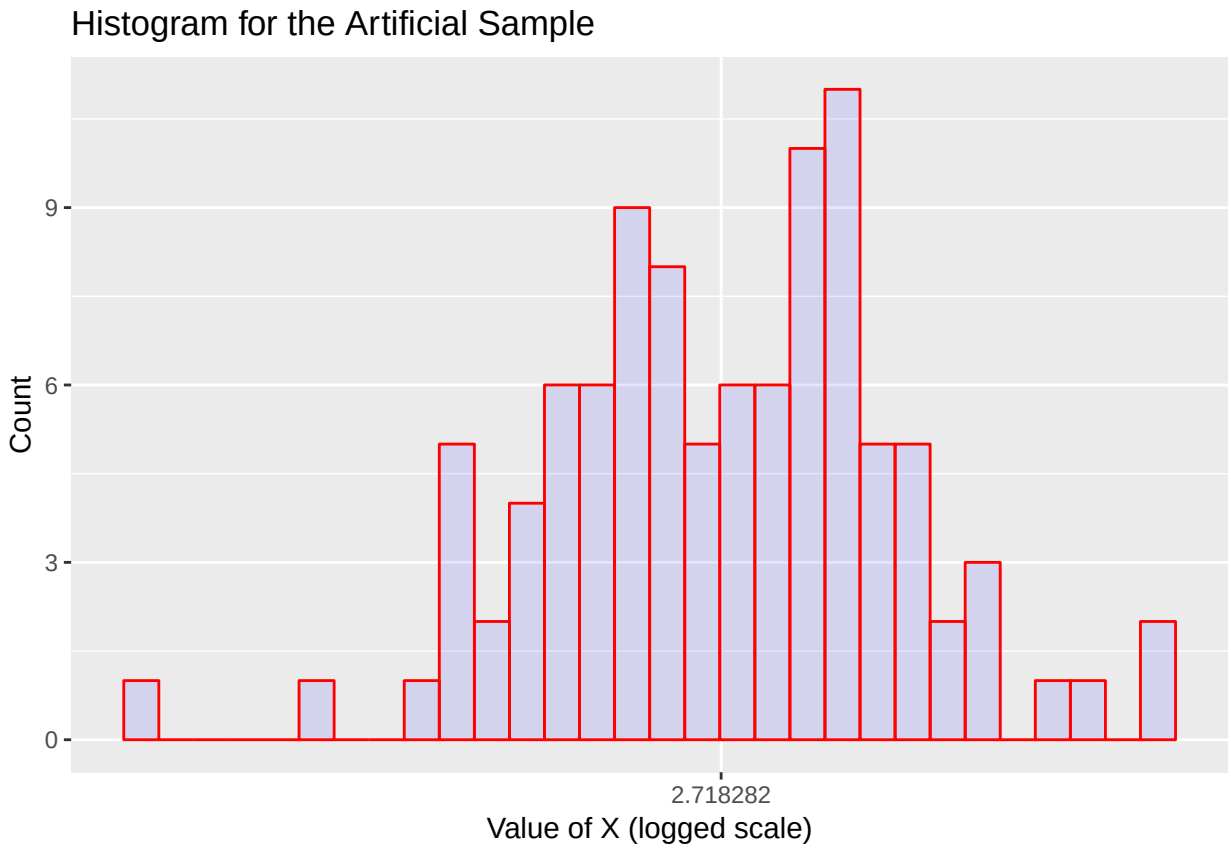
```
#Create an HTML/PDF document that samples 100 values from a log-normal distribution
# (say, mu=1, sigma=.25);
X <- rlnorm(100, meanlog = 1, sdlog = .25)
```

Visual Output of the Artificial Random Variable

```
# Create a histogram of the distribution
library(ggplot2)
qplot(X,
      geom="histogram",
      main = "Histogram for the Artificial Sample",
      xlab = "Value of X",
      ylab = "Count",
      fill=I("blue"),
      col=I("red"),
      alpha=I(.1)
      )
```




```
qplot(X,
      geom="histogram",
      main = "Histogram for the Artificial Sample",
      xlab = "Value of X (logged scale)",
      ylab = "Count",
      fill=I("blue"),
      col=I("red"),
      alpha=I(.1)
      ) +
  scale_x_continuous(trans='log')
```



Incorporating Reproducible Results into the Text

```
# report the mean and variance of the sample in line in the text.
```

The mean of the artificial sample is 2.8144966; and the variance of the sample is 0.5223234.