Simulation exercise using the exponential function

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Simulation exercise

Overview

This simulation exercise will draw 40 variables from a random exponential distributtion of data with $\lambda = 0.2$. A mean distribution of 1000 simulations will be sampled and the mean and variance of this distribution, calculated. Finally, a simple histogram plot will be used to visualize the distribution.

Simulations

In this section, the initial variables are set, then each sample of the simulations will be stored as a row in a matrix. As we have 1000 simulations, the matrix will by default contain 1000 rows (as well as 40 columns).

The initial variables are set first.

```
n <- 40
lambda <- 0.2
draws <- 1000
```

The matrix of the random draws is calculated using the standard `R` function `rexp()`.

```
simulations <- matrix(rexp(n * draws, lambda), nrow = draws)
str(simulations)
```

```
##  num [1:1000, 1:40] 13.792 3.103 5.795 0.548 8.306 ...
```