

# Investigation of Central Limit Theorem

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## Simulation Exercise

### Overview

In this exercise we investigate the exponential distribution and compare it with the Central Limit Theorem. We expect that the means from a large number of identical exponential distributions will themselves form a normal distribution with known mean and standard deviation

We set the seed to ensure that the following analysis is reproducible:

We prepare a thousand repetitions of 40 samples drawn from an exponential distribution.

From our simulated data we can obtain the sample mean:

```
## [1] 0.6088292
```

Scaled Histogram of means drawn from  
exponential distribution

