

## Simulating geometric Brownian motion

created by Thijs van den Berg

$$S_t \sim S_0 \exp\left([\mu - \frac{1}{2}\sigma^2]t + \sigma\sqrt{t}N_{0,1}\right)$$

Simulating geometric Brownian motion. This equation is the exact solution of the geometrix brownian motion SDE.

### Symbol list:

$S_0$	Initial value at t=0 of geometric Brownian
$S_t$	Value of geometric Brownian motion at time t
$\mu$	Drift term
$\sigma$	Volatility
$N_{0,1}$	Random sample from a normal (Gaussian) ditribution with mean 0 and standard deviation 1.