Wiener process by definition

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$$W(t + \Delta t) = W(t) + \sqrt{n}z$$

where z is a realization from $Z \sim N(0,1)$

```r
set.seed(123)
N <- 100
T <- 1
Delta <- T/N
W <- numeric(N+1)
t <- seq(0,T, length=N+1)
for(i in 2:(N+1))
  W[i] <- W[i-1] + rnorm(1) * sqrt(Delta)
plot(t,W, type="l", ylim=c(-1,1))
```