

Normal Distribution Sampling

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Parameter setting:

```
set.seed(086)
N=1000
n=1000
```

Sampling with `rnorm()` and ‘lattice point discretization method’:

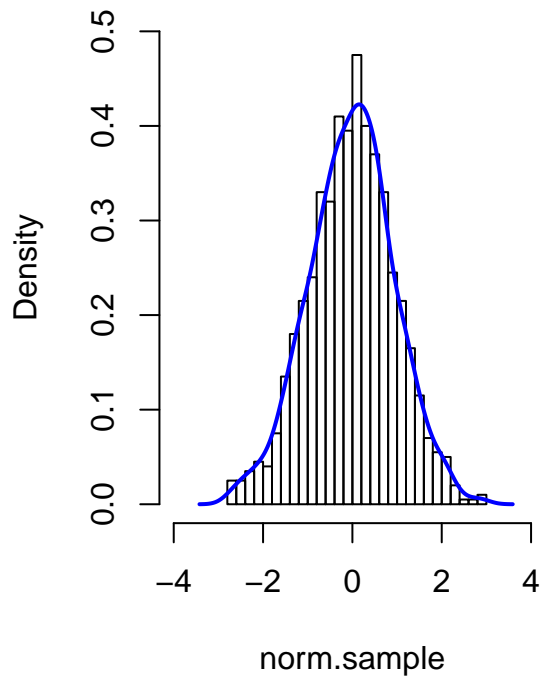
```
norm.sample=rnorm(n)

xi=seq(-4, 4, length.out=N)
xi.density=dnorm(xi)/sum(dnorm(xi))
lattice.sample=sample(xi, replace=T, size=n, prob=xi.density)

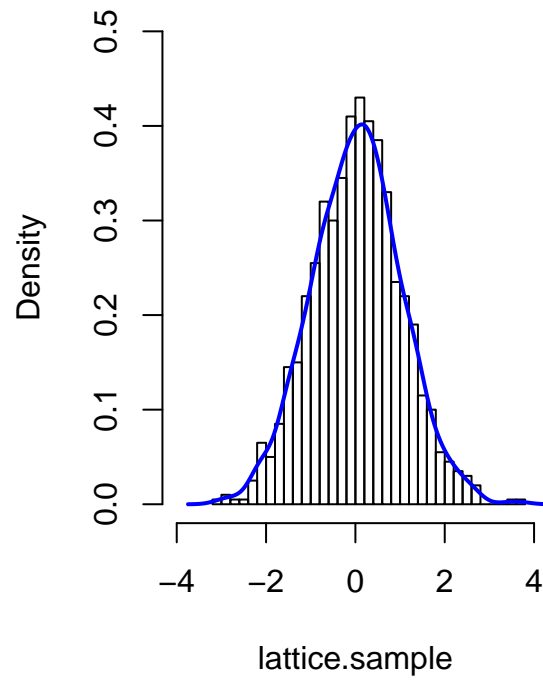
opar<-par(mfrow=c(1,2))

hist(norm.sample, xlim=c(-4,4), ylim=c(0,0.5), breaks=32, probability=T)
lines(density(norm.sample), col="blue", lwd=2)
hist(lattice.sample, xlim=c(-4,4), ylim=c(0,0.5), breaks=32, probability=T)
lines(density(lattice.sample), col="blue", lwd=2)
```

Histogram of norm.sample



Histogram of lattice.sample



```
par(opar)
```