Central Limit Theorem

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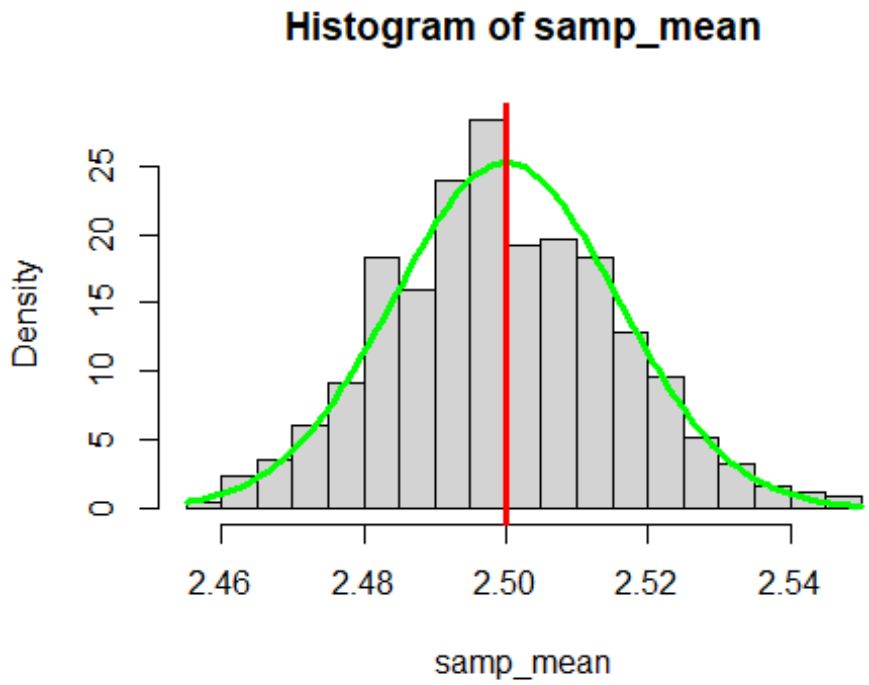
```
######### Central limit theorem  #############
n=5000    ######## sample size
samp_mean=c()
it=500  ####### no of times sample draw
n1=5   #### no of trail
p=0.5  ### probability of success
for(i in 1:it)
{
  samp=rbinom(n,5,0.5)
  samp_mean[i]=mean(samp)
}
m=n1*p
hist(samp_mean,"FD",prob=T)
x=seq(2.46,2.56,by=0.001)
curve(dnorm(x,mean=n1*p,sd=sqrt(n1*p*(1-p))/sqrt(n)),add=T,col="green",lwd=3)
abline(v=m,col="red",lwd=3)
```

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####################################
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Result : Sample mean converged to Normal Distribution with mean is same as population mean and variance is sigma_sqr by n ,in Distribution for large n .