Homework 1

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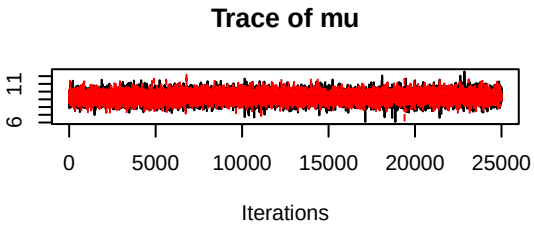
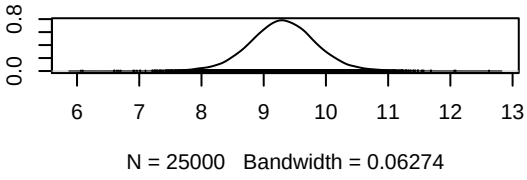
Problem 1

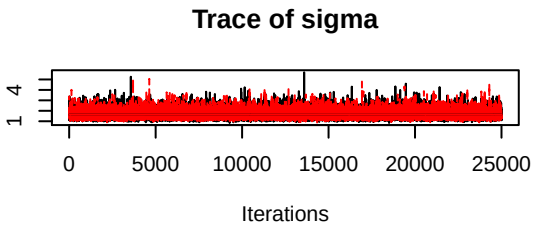
Setup

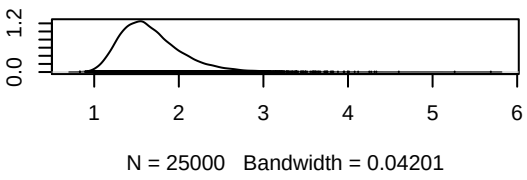
```
#Example 7.10 with slight modifications.
data <- list(y=c(10,9,9,8,9.5,7,12,11,8,10.5))
#INI <- list(list(mu=10,tau=1),list(mu=9, tau=0.1))

#Specifying the JAGS code here.
mdl <- textConnection("
data {n0 <- 0.1}
model{
  for (i in 1:10) {y[i] ~ dnorm(mu,tau)}
  tau ~ dgamma(1,0.01)
  sigma2 <- 1/tau
  sigma <- sqrt(sigma2)
  mu ~ dnorm(0, n0*tau)
}")

M <- jags.model(mdl,data=data,n.chains=2,n.adapt=500)
R <- coda.samples(M,c("mu","sigma","sigma2"),n.iter=25000)
```

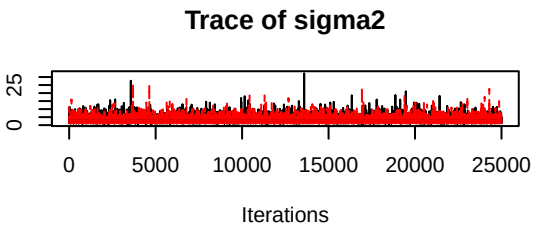
Results

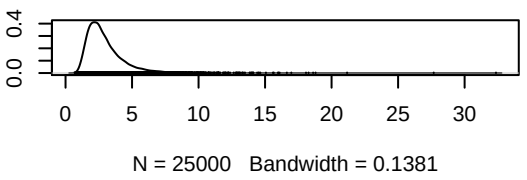












	Mean	SD	Naive SE	Time-series SE
mu	9.309189	0.5450842	0.0024377	0.0024544
sigma	1.680347	0.3831260	0.0017134	0.0018802
sigma2	2.970348	1.5053950	0.0067323	0.0073956

Problem 2

Setup