STAT 578 - Advanced Bayesian Modeling - Fall 2019
Assignment 3

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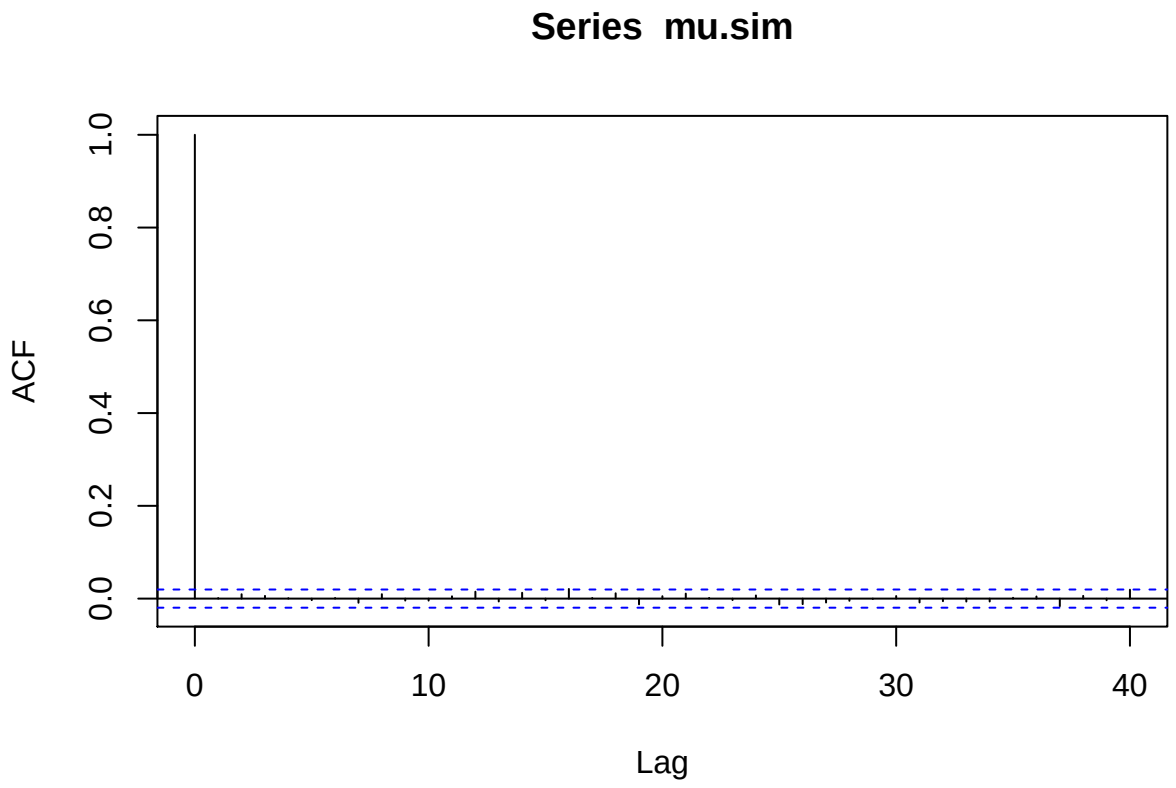
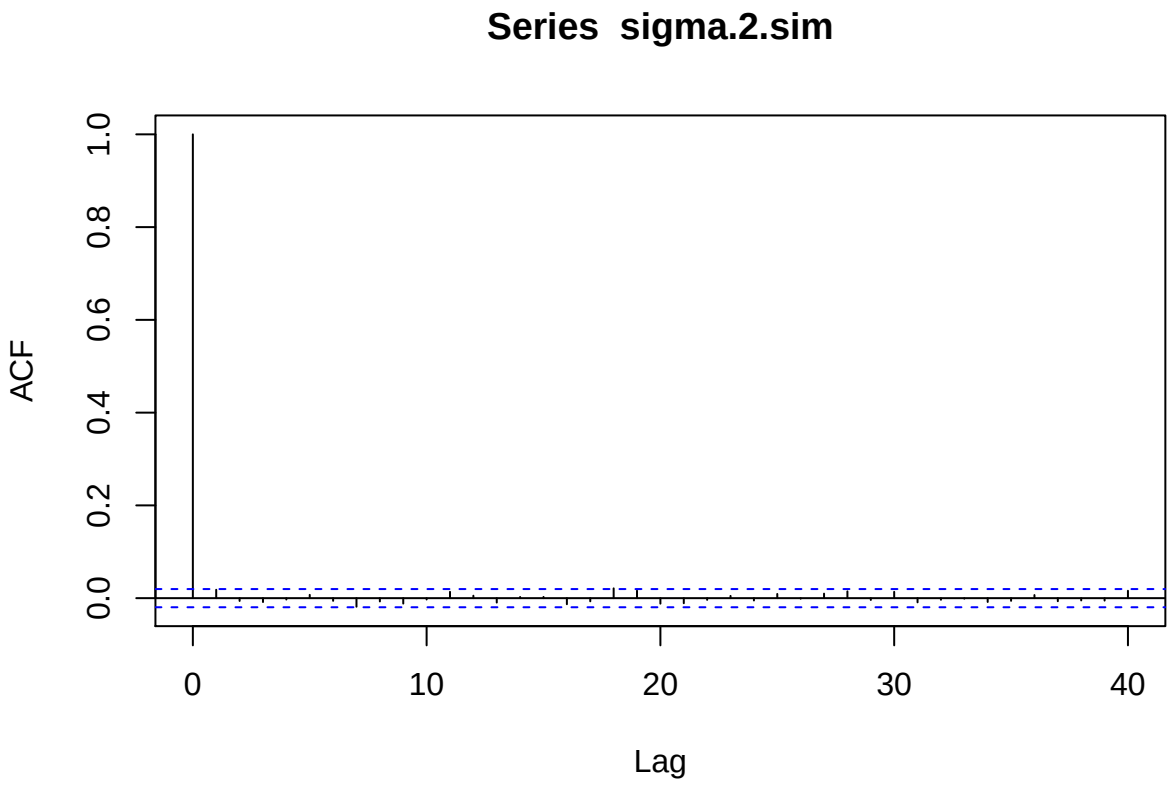
Solution for Problem 1

(a)

```
source("FlintGibbs.R")
acf(mu.sim)
```




```
acf(sigma.2.sim)
```



(b)

(i)

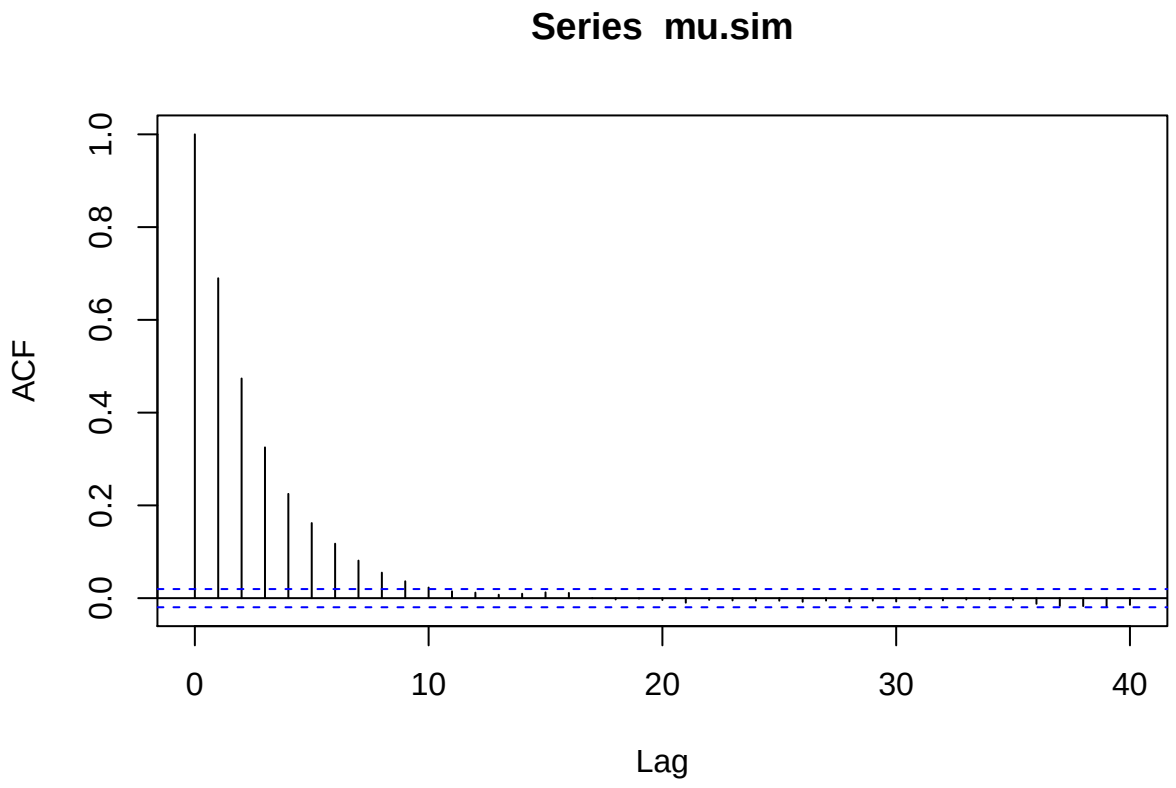
```
rho <- 0.03
source("FlintMetropolis.R")
```

```
## [1] 0.3522545
```

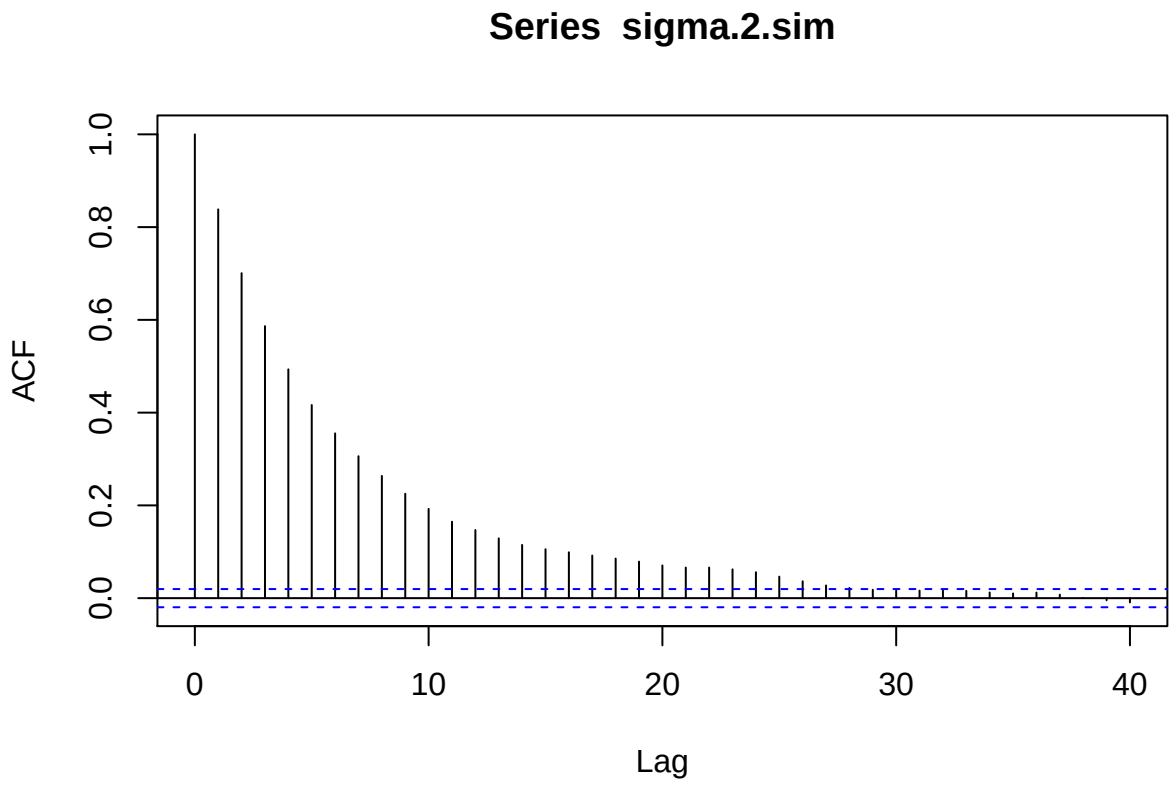
0.03 of ρ gives acceptance rate of about 0.35.

(ii)

```
acf(mu.sim)
```




```
acf(sigma.2.sim)
```



(c)

The autocorrelation plot for Gibbs sampler decays much faster than Metropolis sampler's. Thus, Gibbs sampler exhibited faster mixing.

Solution for Problem 1

(a)

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(b)

(i)

(ii)

(iii)

(iv)

(v)

(vi)

(vii)