Homework 5

Problem 14 b

Problem 14 b

Sample mean

```
#knitr::kable(colMeans(acf.tss.mat.1000))
```

Correlation Matrix

```
knitr::kable(df_corr)
```

cor_1	cor_2	cor_3	cor_4
1.0000000	-0.0411193	0.6208001	-0.0524932
-0.0411193	1.0000000	-0.0544279	0.8293081
0.6208001	-0.0544279	1.0000000	-0.0680485
-0.0524932	0.8293081	-0.0680485	1.0000000

Covariance Matrix

```
knitr::kable(df_cov)
```

cov_1	cov_2	cov_3	cov_4
0.0233777	-0.0004693	0.0111827	-0.0009435
-0.0004693	0.0055719	-0.0004786	0.0072770
0.0111827	-0.0004786	0.0138799	-0.0009424
-0.0009435	0.0072770	-0.0009424	0.0138187

It is very much in sync with what large sample theory suggests

Changing the value , a = -2, sd =4

Covariance Matrix 2

```
knitr::kable(df_cov_2)
```

cov_1	cov_2	cov_3	cov_4
0.0233988	-0.0004535	0.0112017	-0.0009680
-0.0004535	0.0055768	-0.0004621	0.0072725
0.0112017	-0.0004621	0.0138732	-0.0009418
-0.0009680	0.0072725	-0.0009418	0.0138139