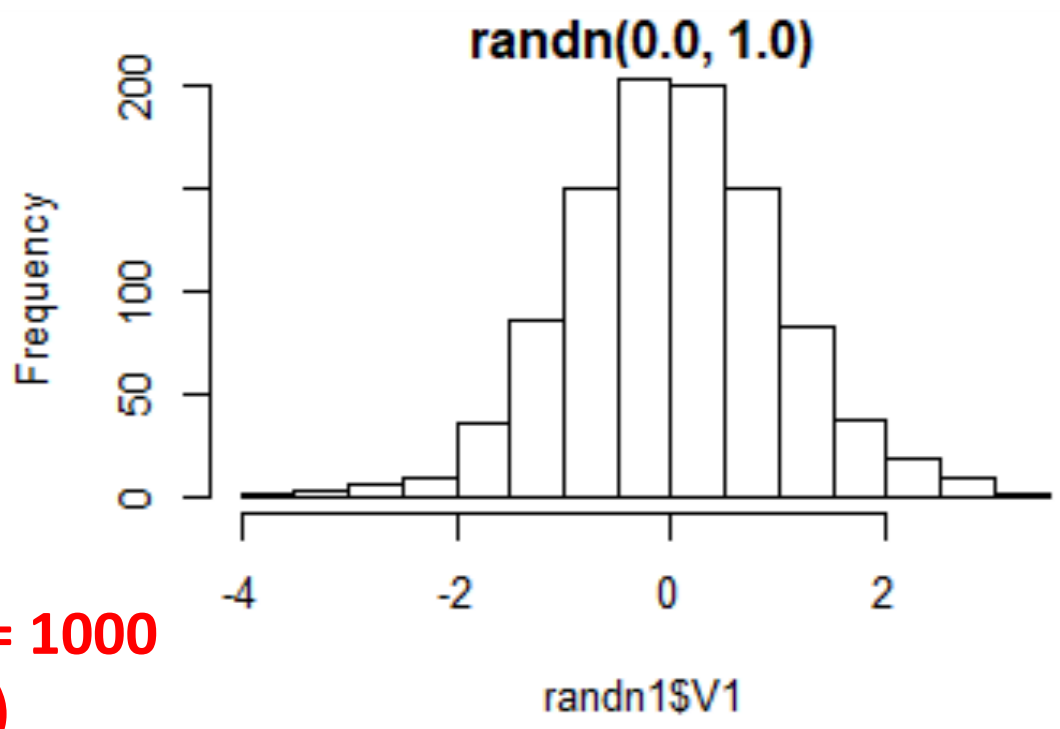
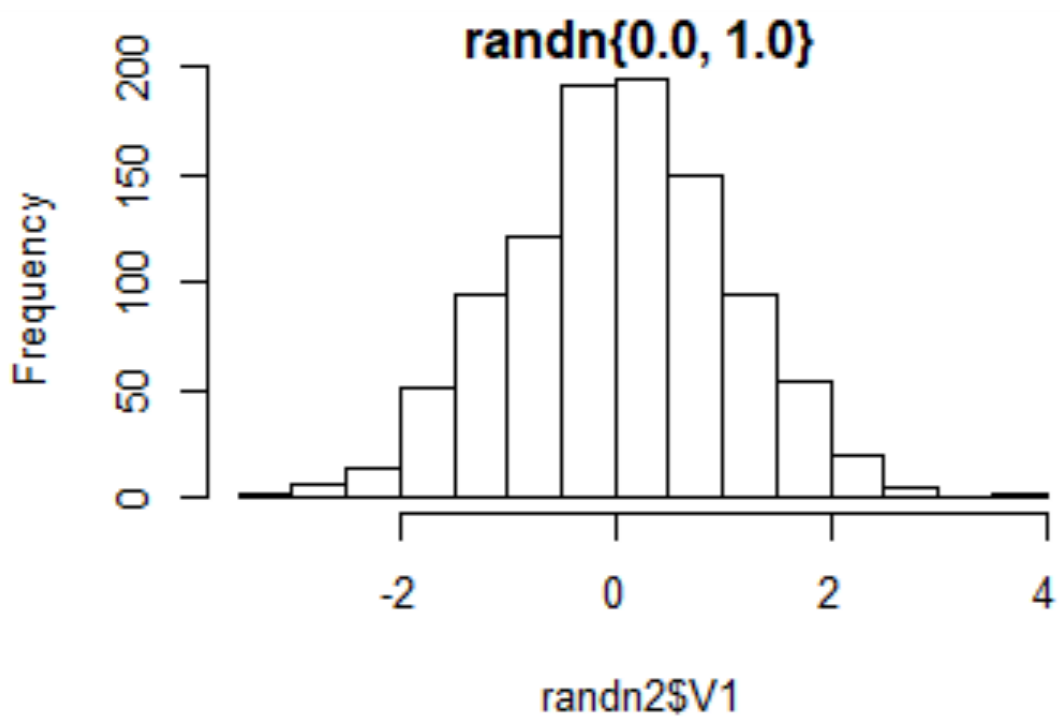
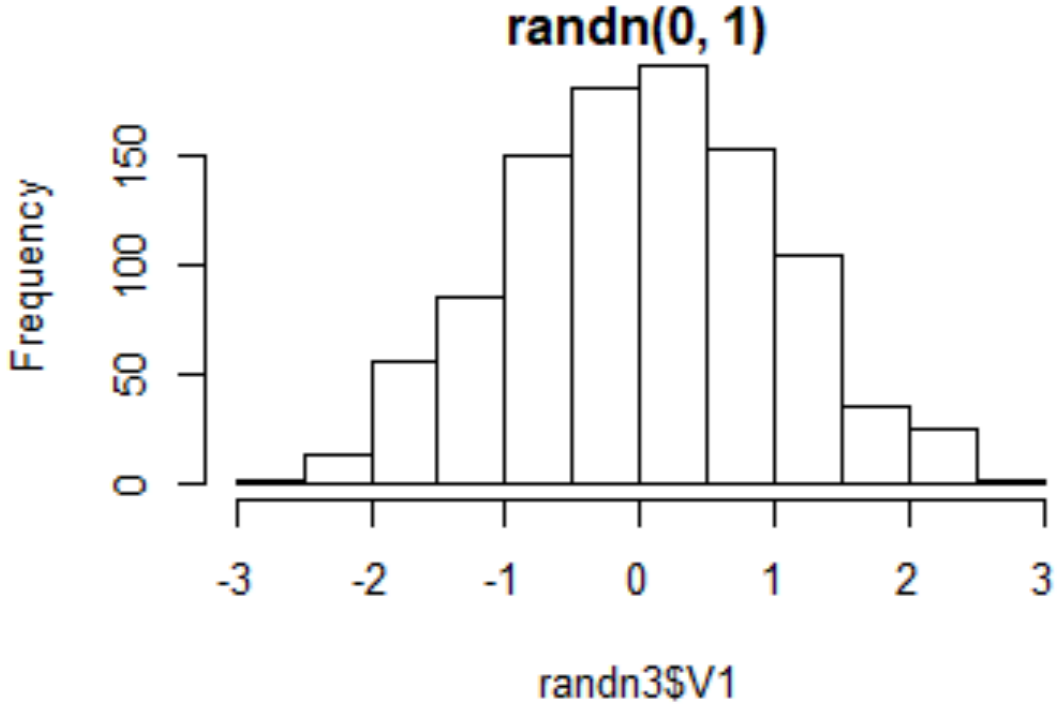
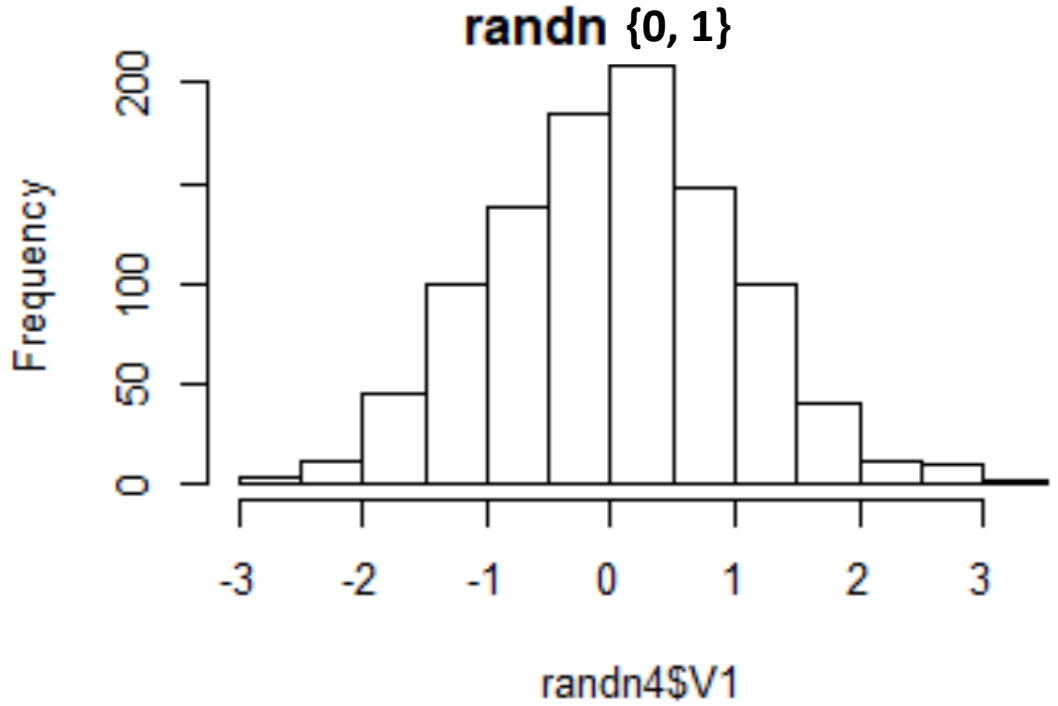
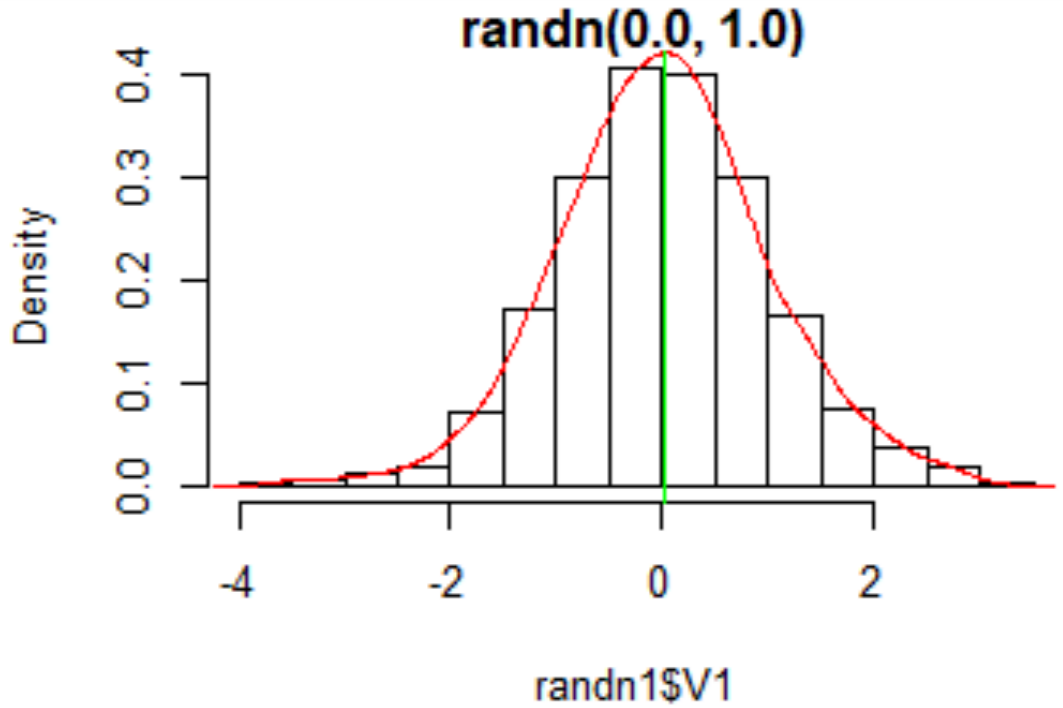
Nb of draws = 1000
(in all figures)

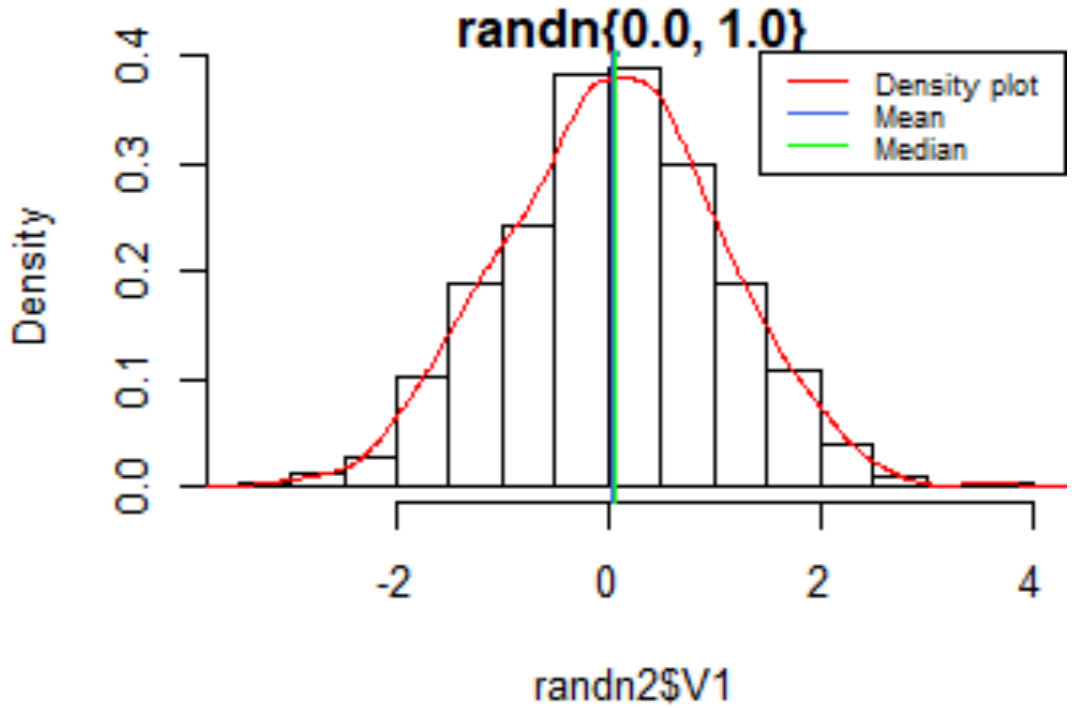


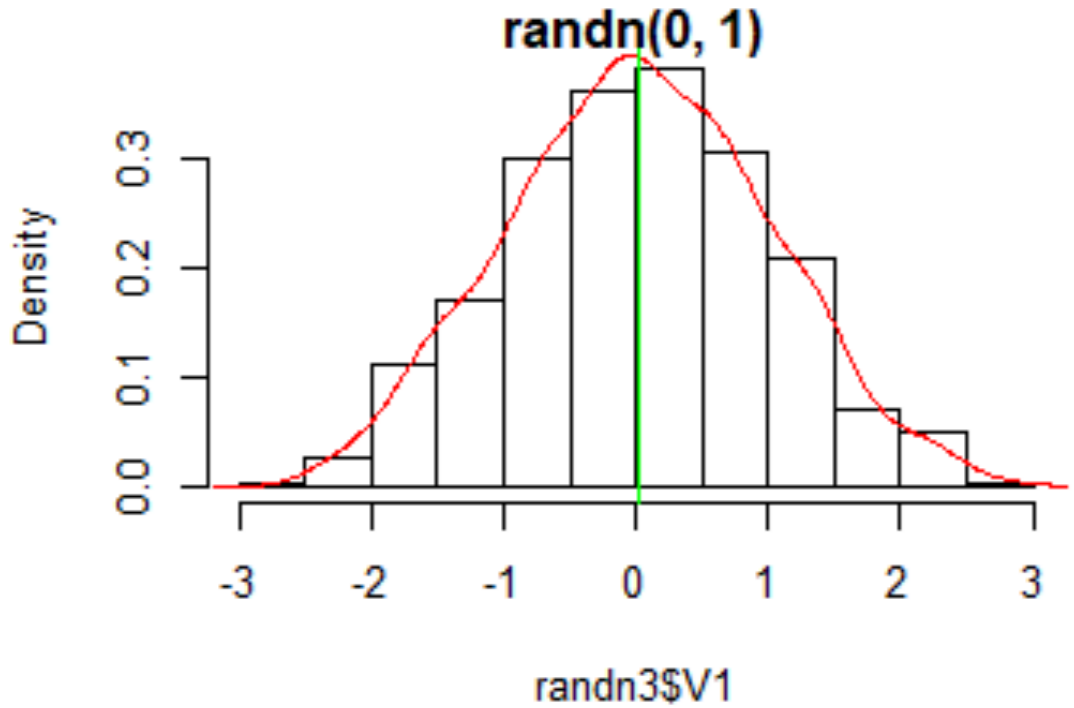


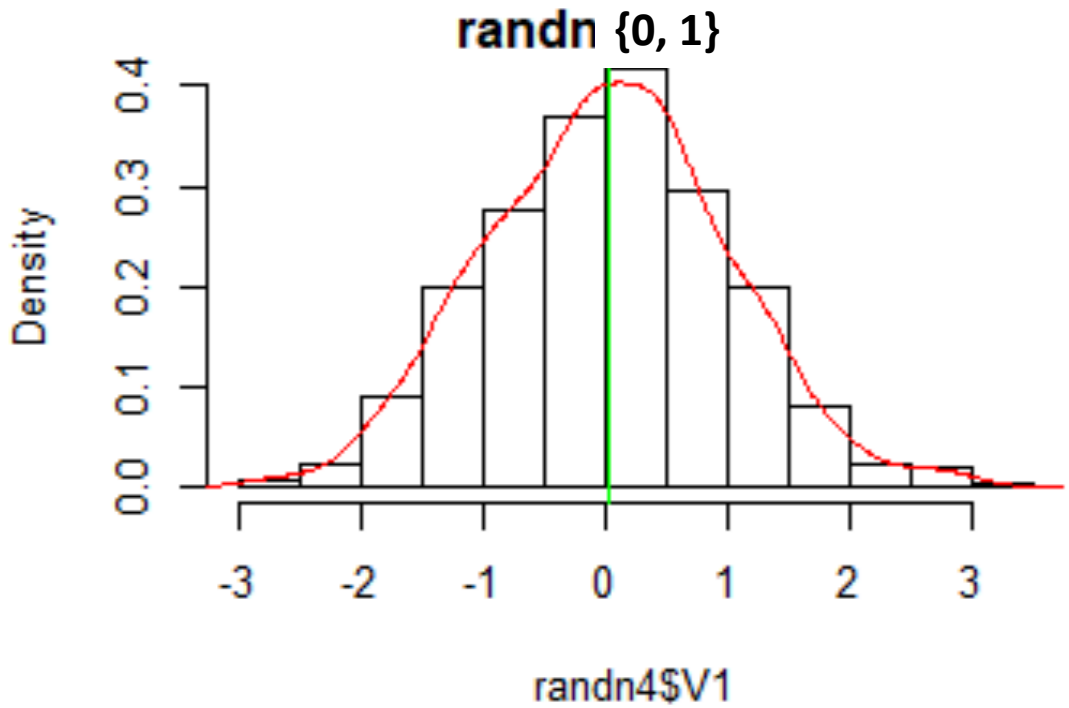


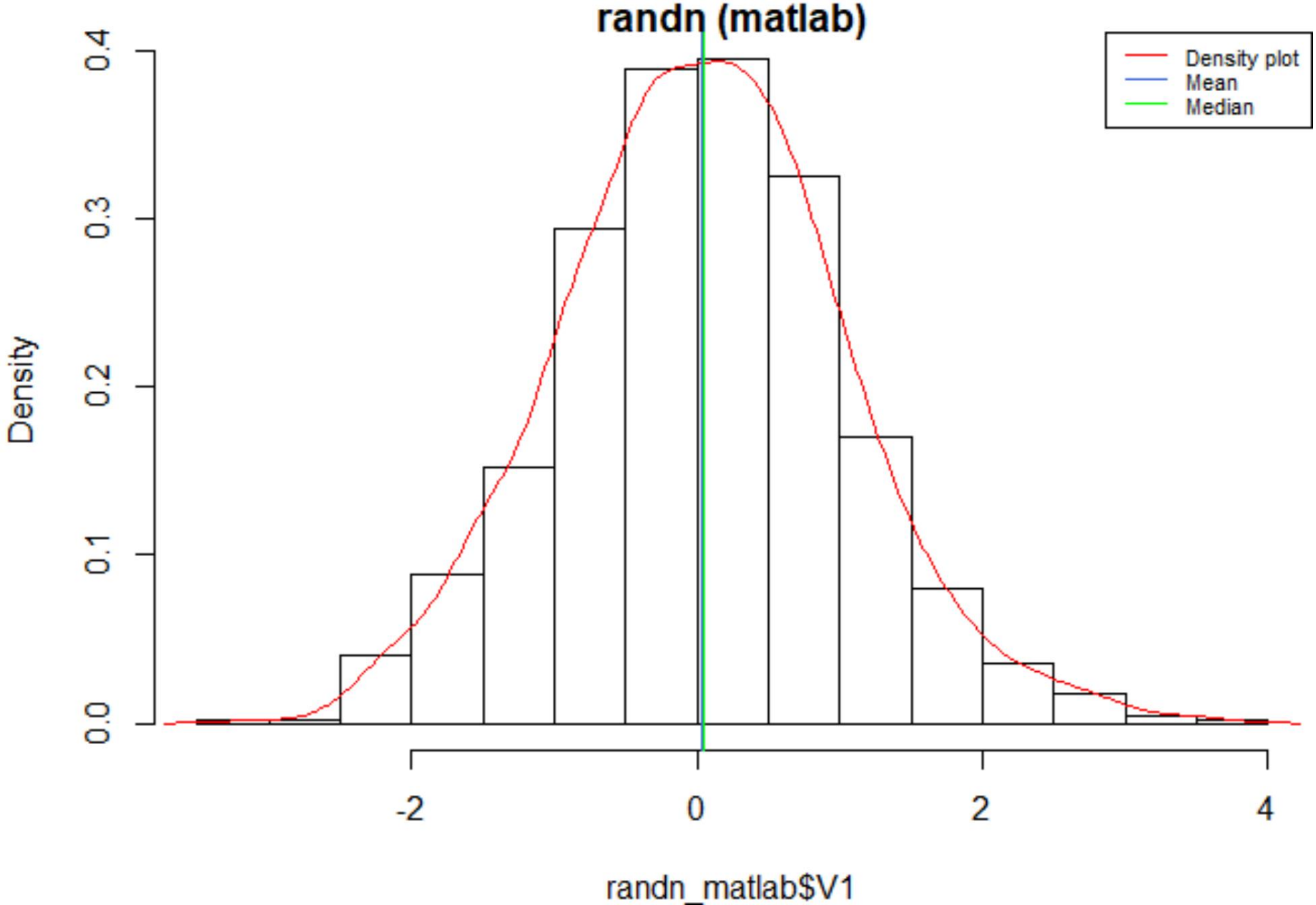


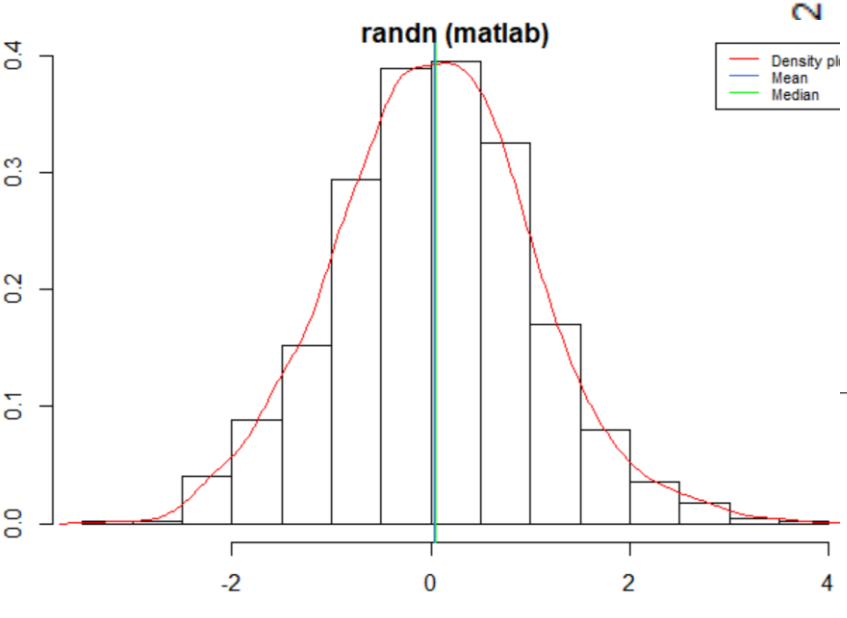

randn(0.0, 1.0)
Density
0.0
0.1
0.2
0.3
0.4
-4
-2
0
2
randn1$V1


randn{0.0, 1.0}
Density plot
Mean
Median
Density
0.0
0.1
0.2
0.3
0.4
-2
0
2
4
randn2$V1

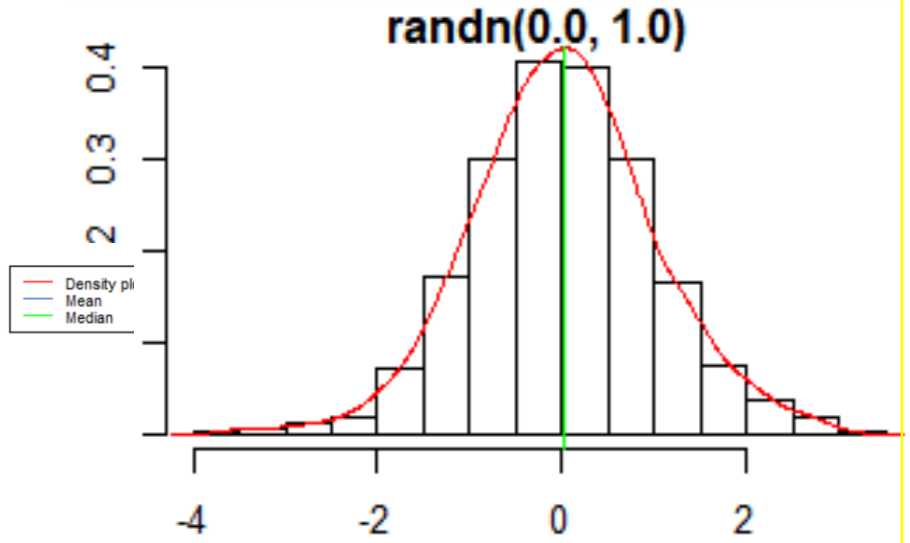

randn(0, 1)
Density
0.0
0.1
0.2
0.3
-3
-2
-1
0
1
2
3
randn3$V1


randn {0, 1}
Density
0.0
0.1
0.2
0.3
0.4
-3
-2
-1
0
1
2
3
randn4$V1

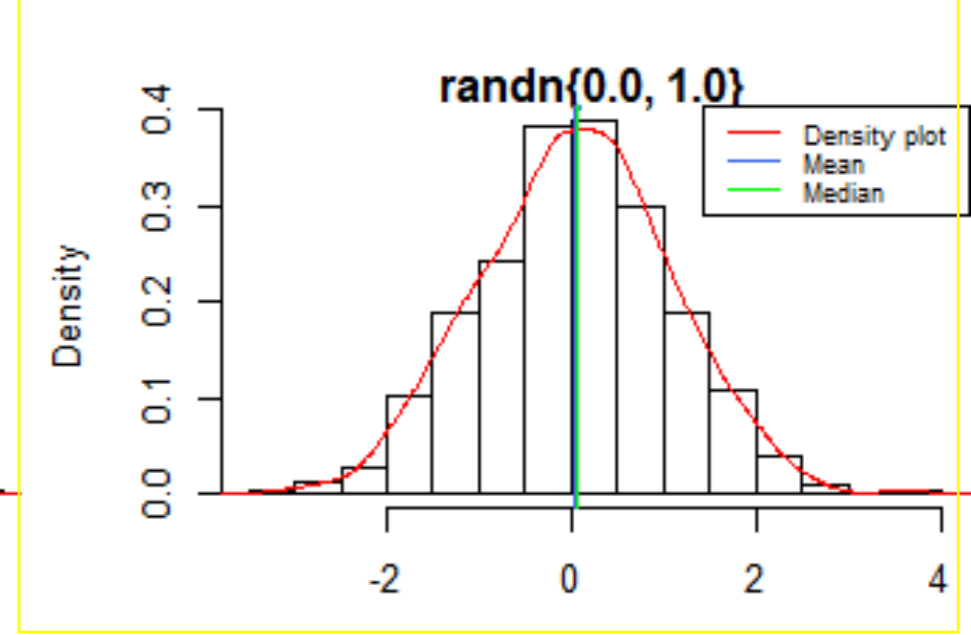

randn (matlab)
Density plot
Mean
Median
Density
0.0
0.1
0.2
0.3
0.4
-2
0
2
4
randn_matlab$V1



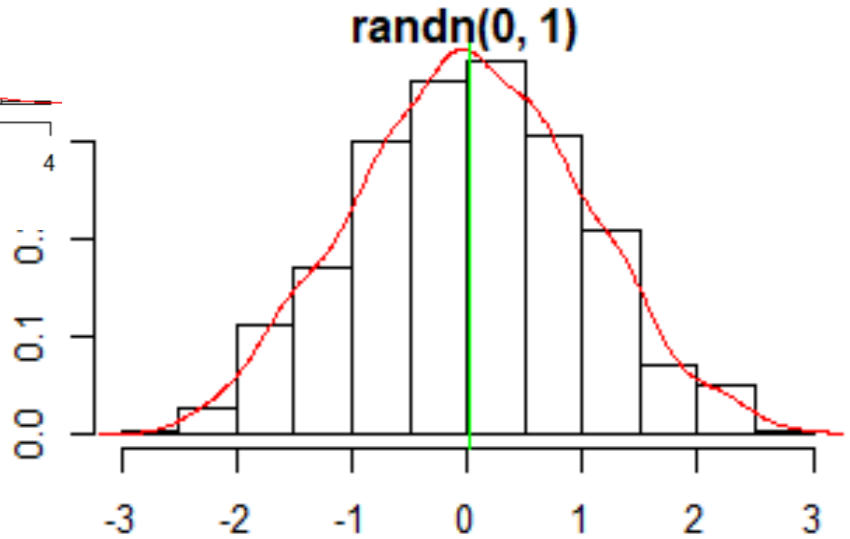

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-3.0722 -0.6204  0.0497  0.0369  0.6739  3.5699
```



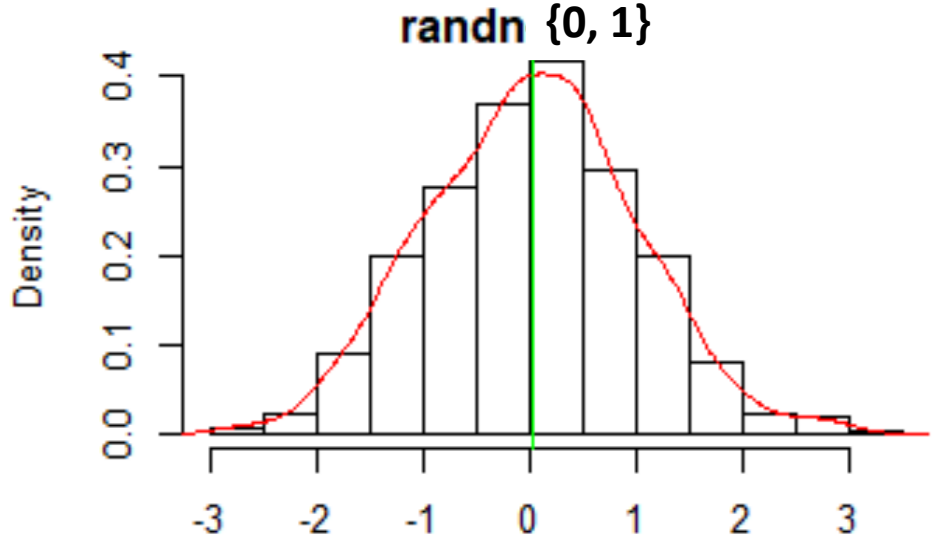

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
-3.601112 -0.618082  0.007784  0.009699  0.634788  3.060697
```



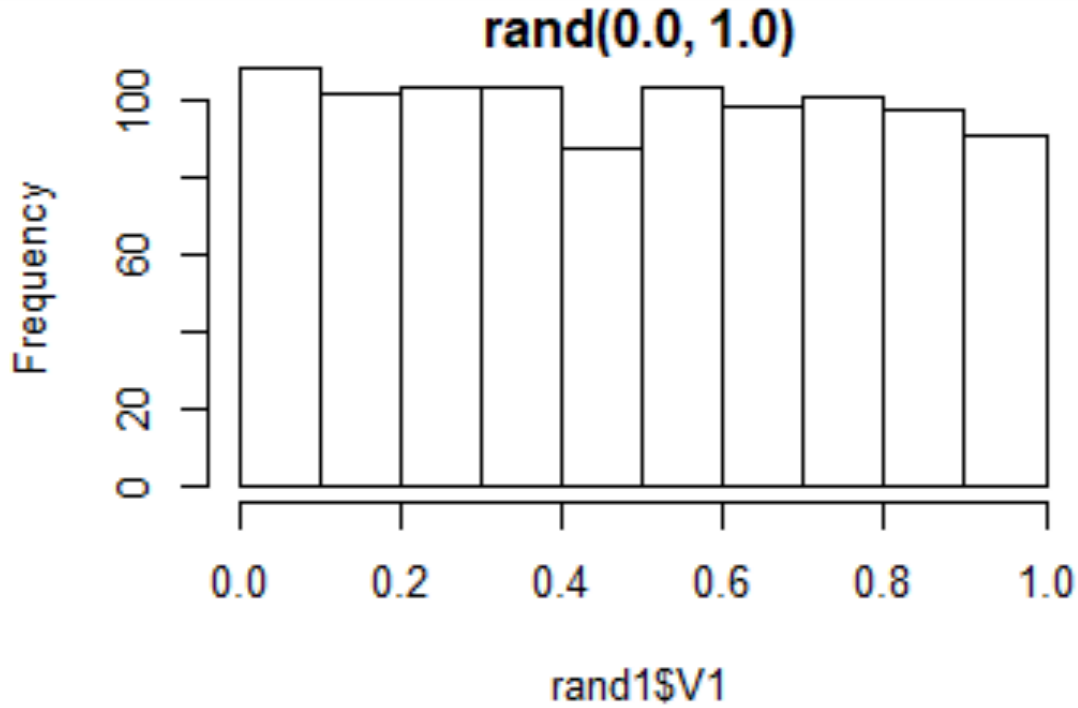

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
-3.15638 -0.66132  0.05817  0.04620  0.74595  3.67379
```

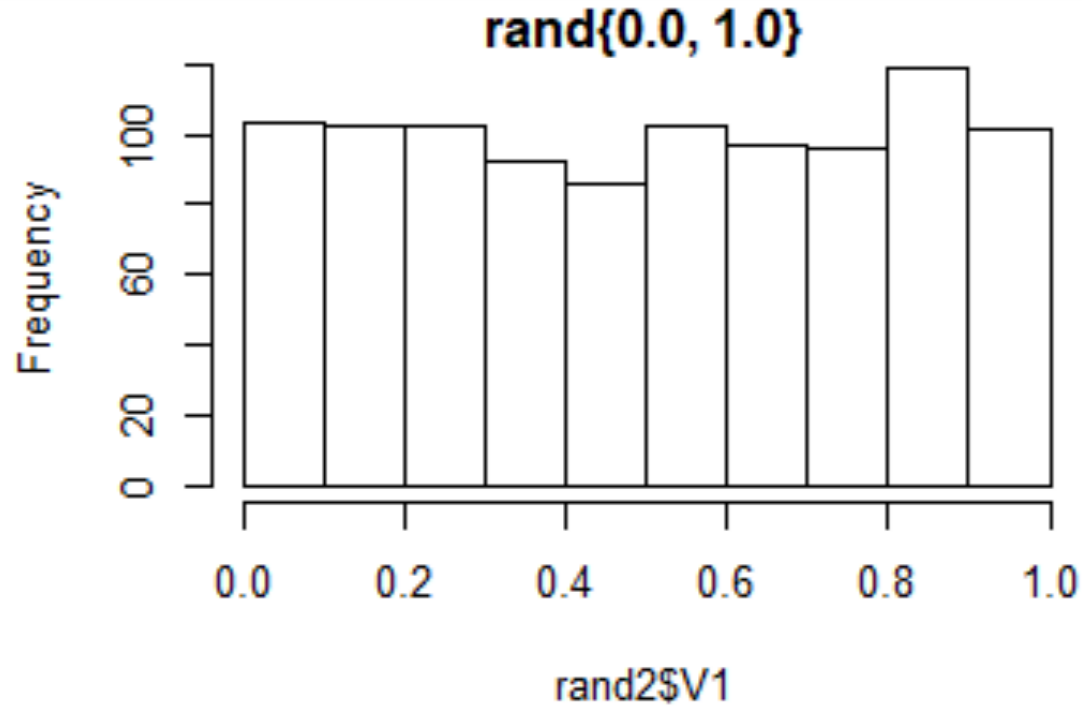


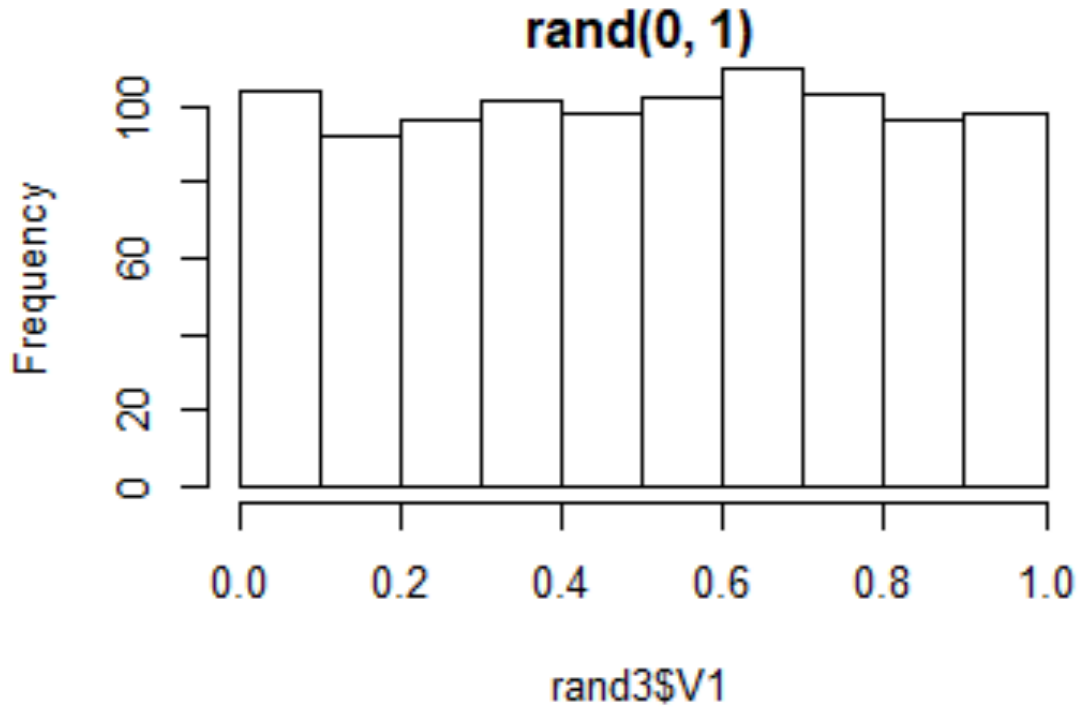

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
-2.51660 -0.66359  0.02440  0.02114  0.69919  2.86042
```

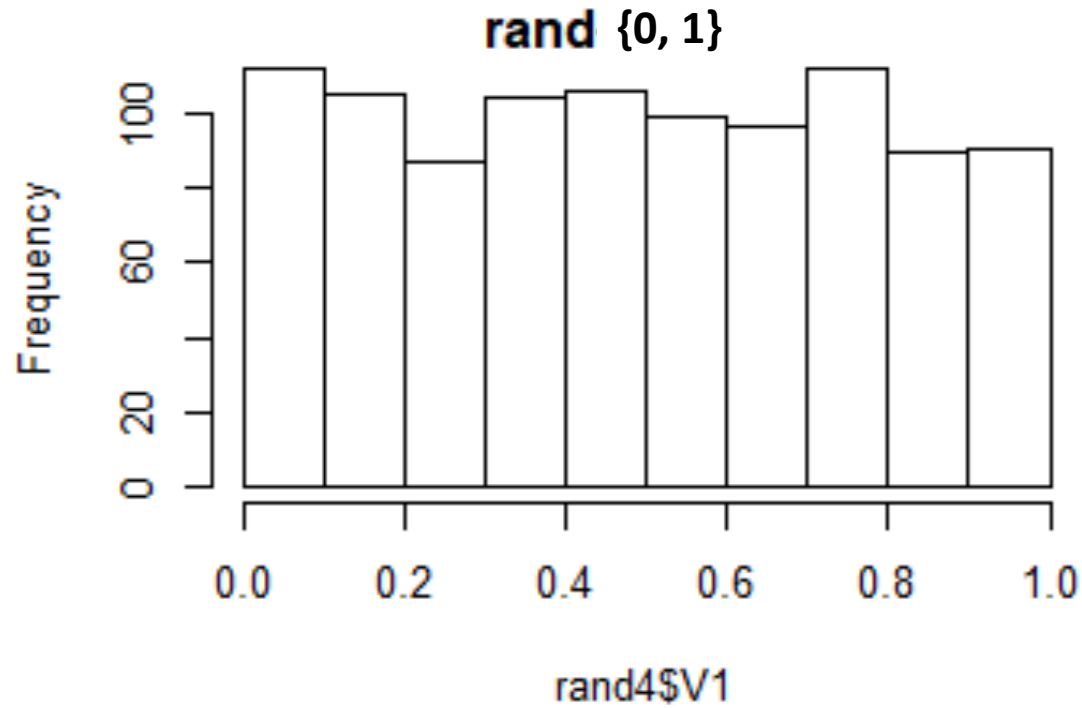


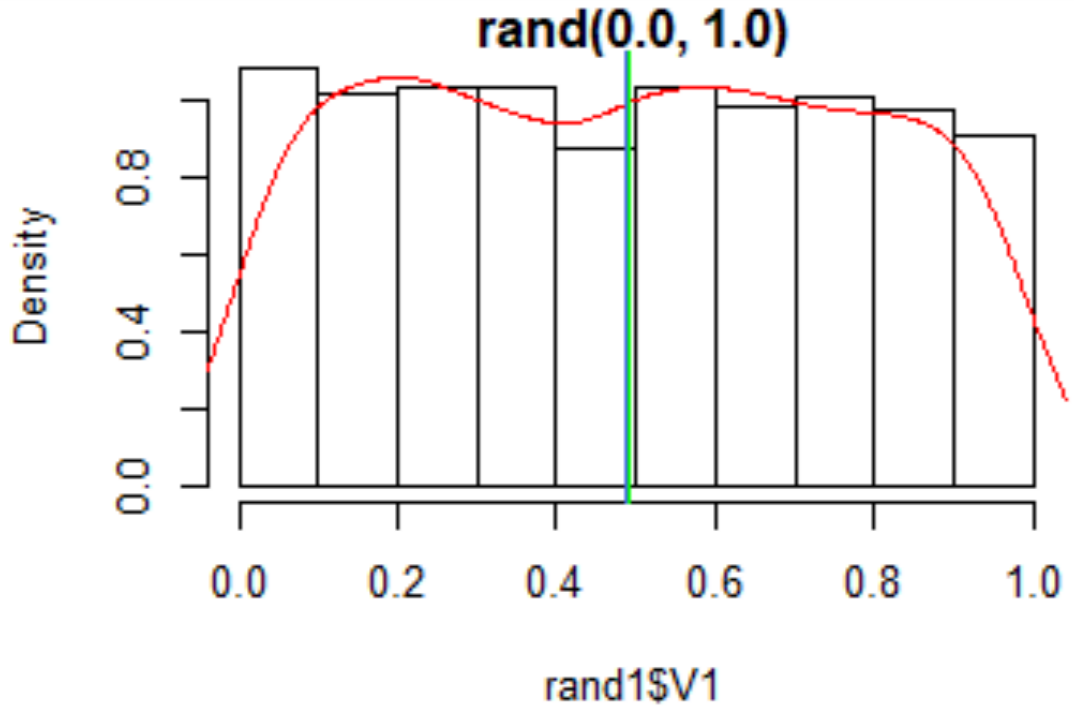

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
-2.86975 -0.66103  0.02703  0.02363  0.67053  3.07655
```

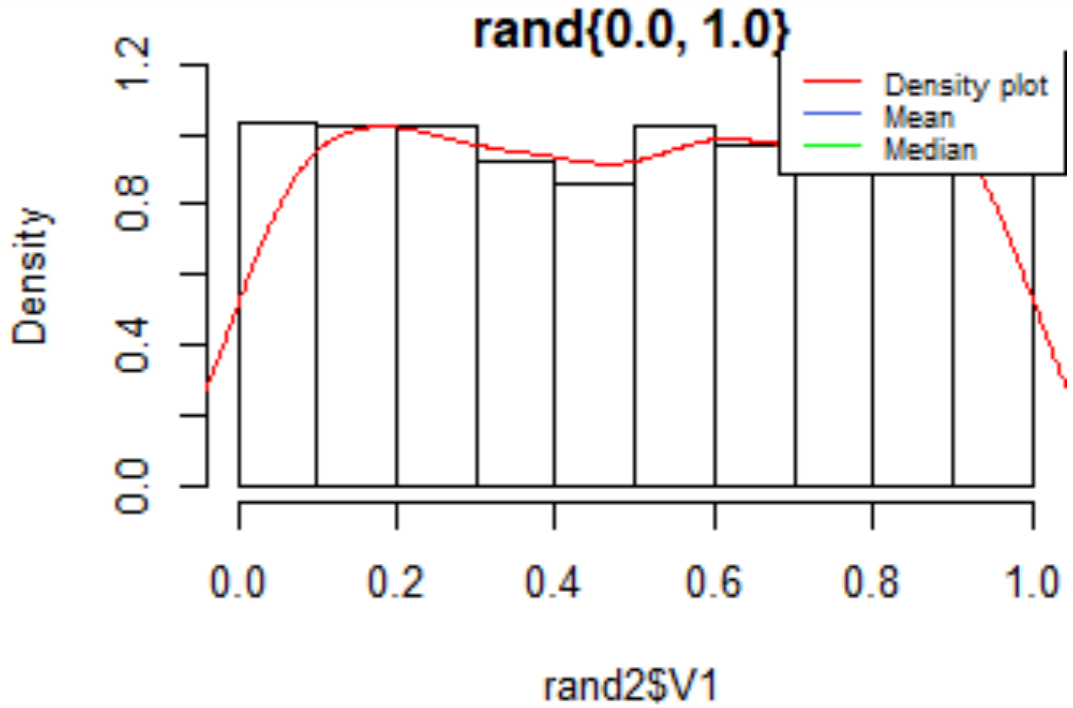

rand(0.0, 1.0)
Frequency
0
20
60
100
0.0
0.2
0.4
0.6
0.8
1.0
rand1$V1

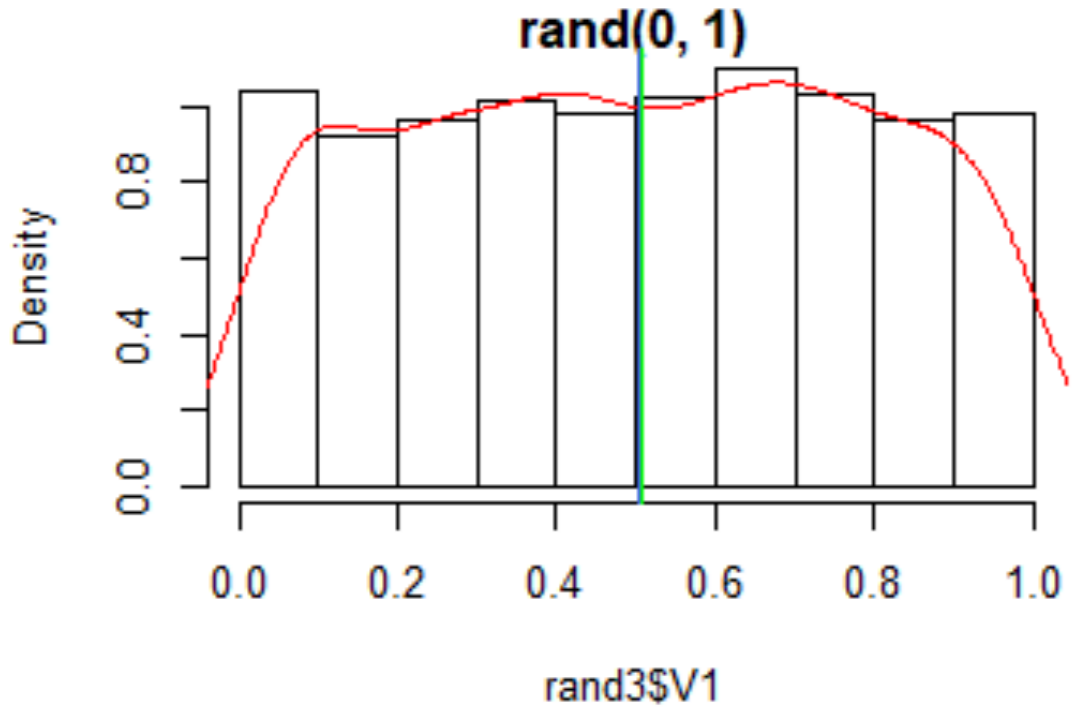

rand{0.0, 1.0}
Frequency
0
20
60
100
0.0
0.2
0.4
0.6
0.8
1.0
rand2$V1

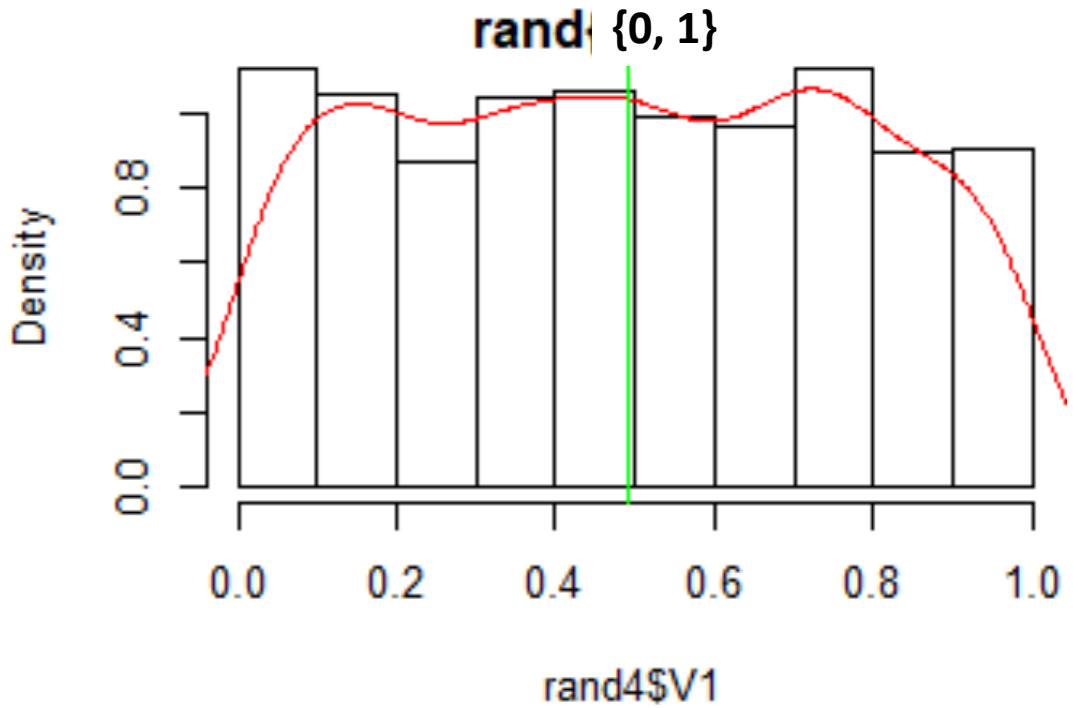

rand(0, 1)
Frequency
0
20
60
100
0.0
0.2
0.4
0.6
0.8
1.0
rand3$V1

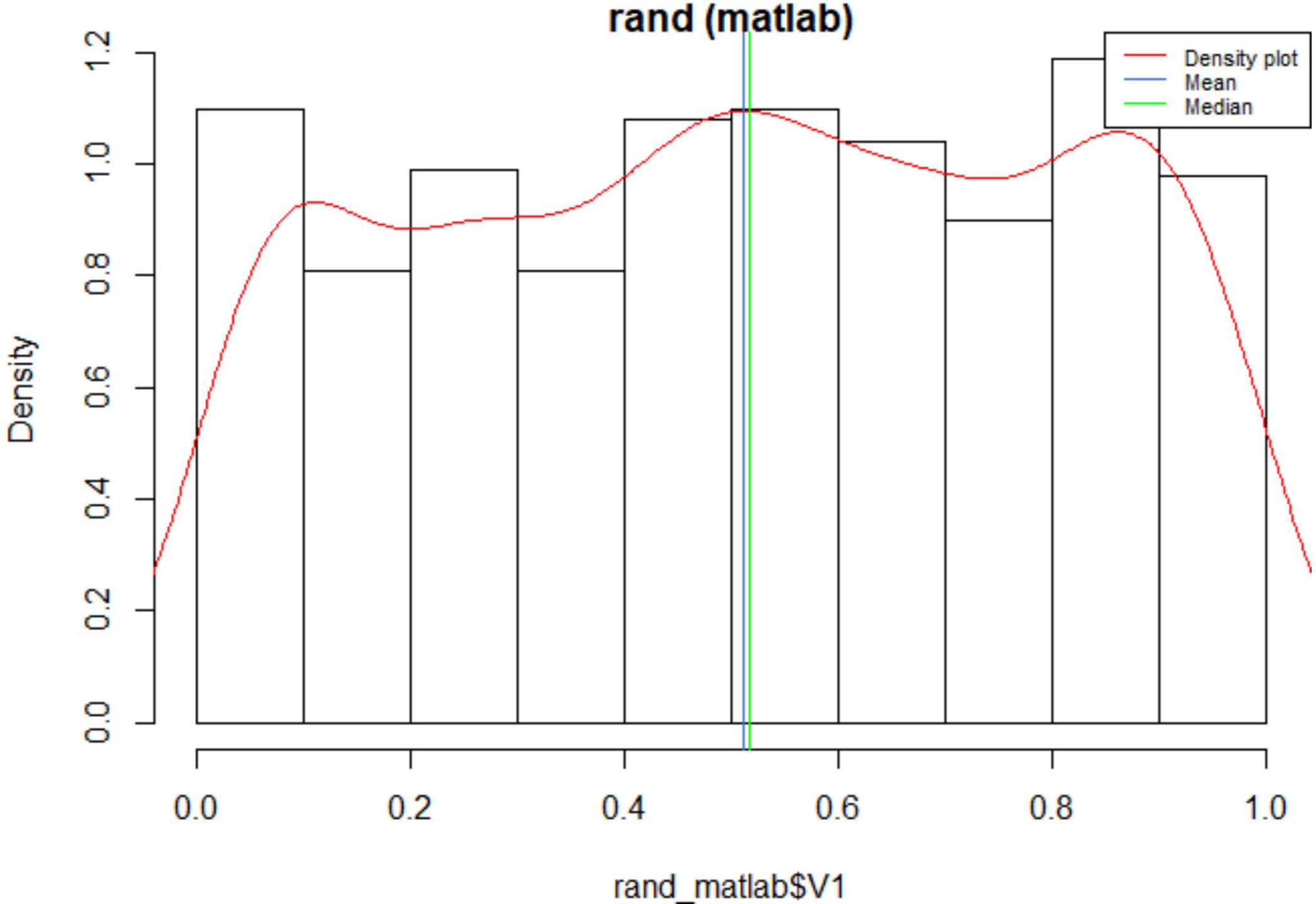

rand {0, 1}
Frequency
0
20
60
100
0.0
0.2
0.4
0.6
0.8
1.0
rand4$V1

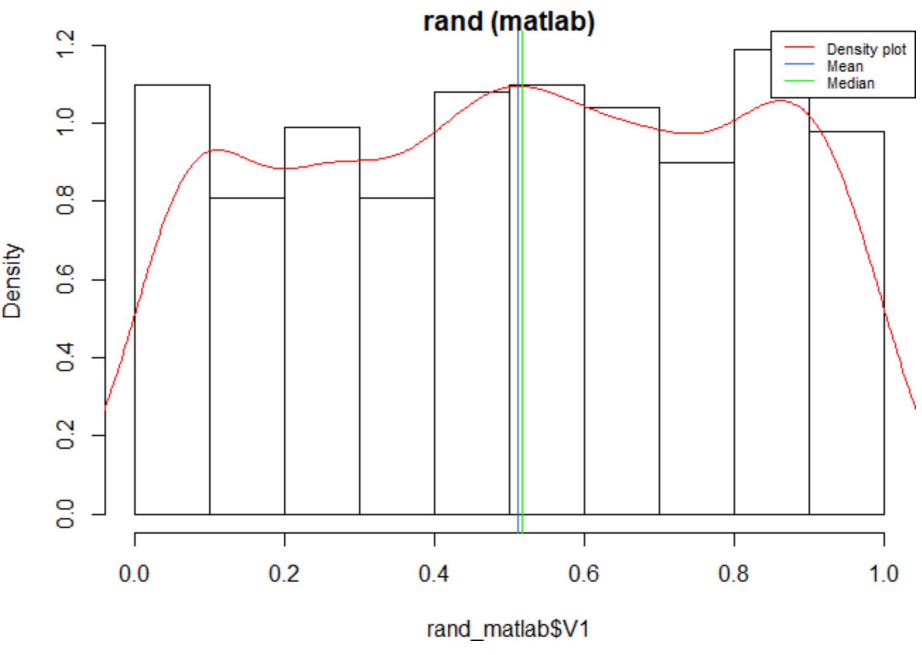

rand(0.0, 1.0)
Density
0.0
0.4
0.8
0.0
0.2
0.4
0.6
0.8
1.0
rand1$V1


rand{0.0, 1.0}
Density plot
Mean
Median
Density
0.0
0.4
0.8
1.2
0.0
0.2
0.4
0.6
0.8
1.0
rand2$V1

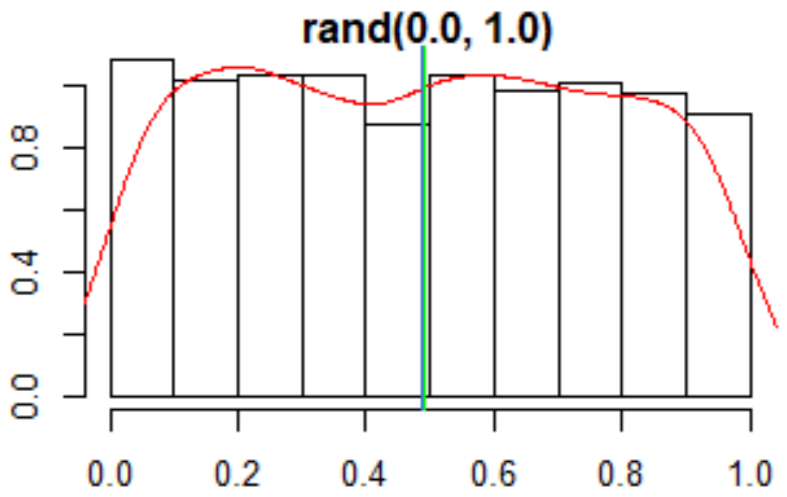

rand(0, 1)
Density
0.0
0.4
0.8
0.0
0.2
0.4
0.6
0.8
1.0
rand3$V1


rand {0, 1}
Density
0.0
0.4
0.8
0.0
0.2
0.4
0.6
0.8
1.0
rand4$V1

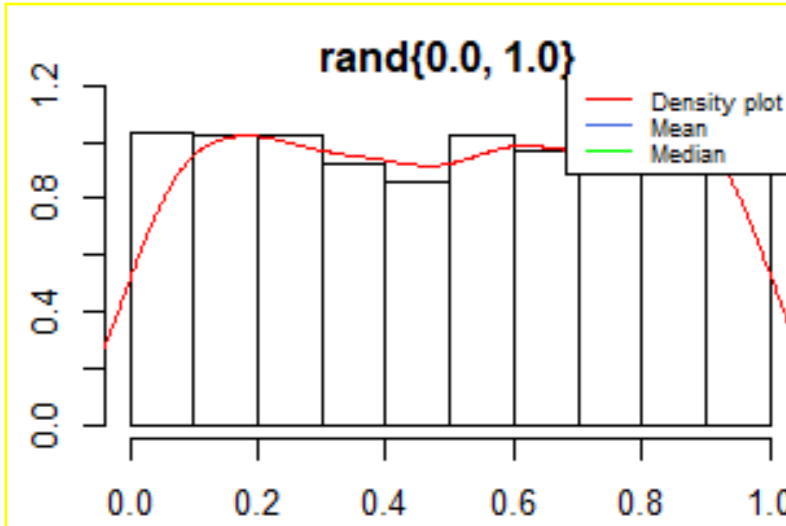

rand (matlab)
Density plot
Mean
Median
Density
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.0
0.2
0.4
0.6
0.8
1.0
rand_matlab$V1



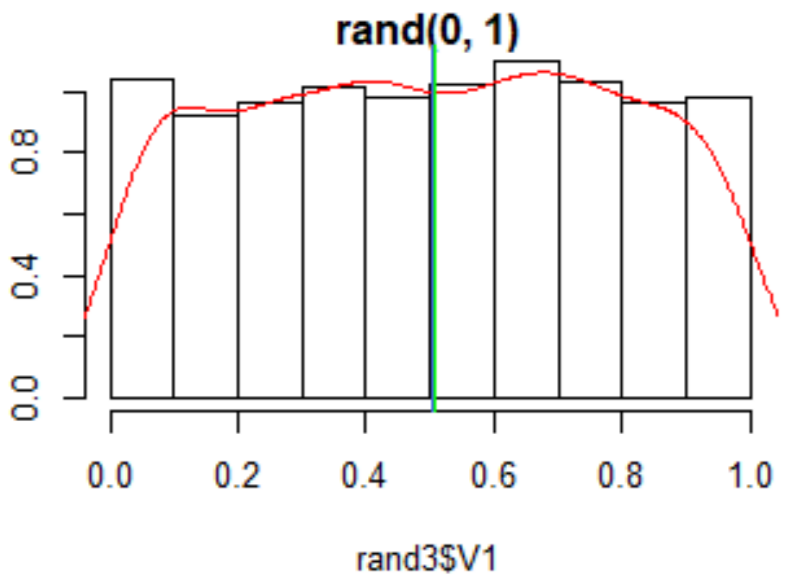

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
0.0006587 0.2604632 0.5160217 0.5099978 0.7563953 0.9997926
```



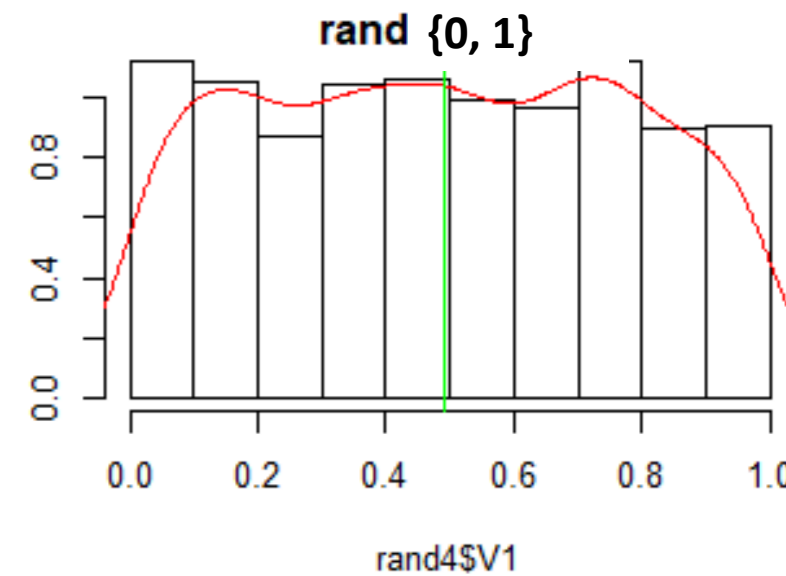

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
0.000932 0.228538 0.493374 0.488138 0.731375 0.998007
```



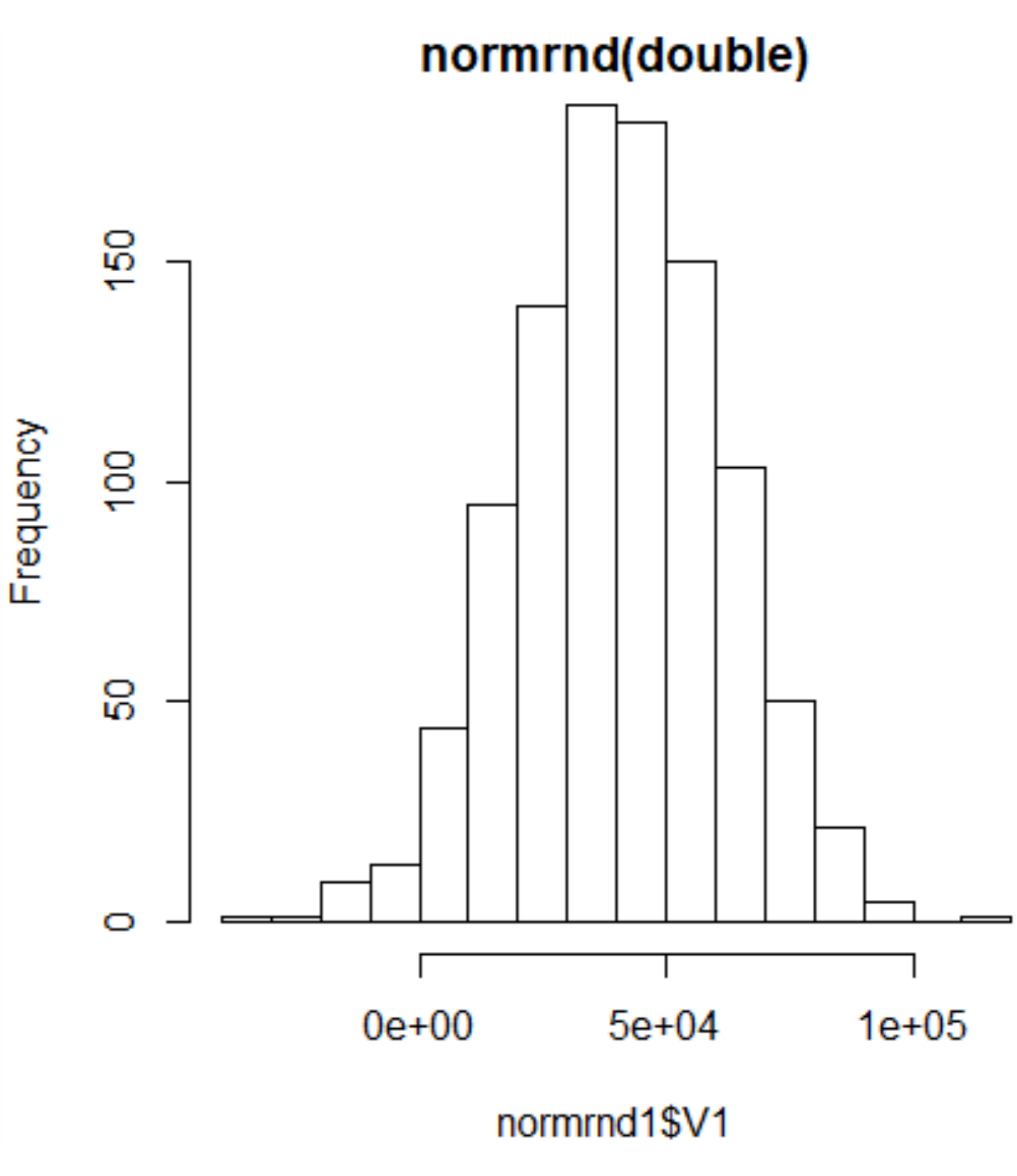

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
0.000271 0.245365 0.513138 0.505767 0.775505 0.999709
```

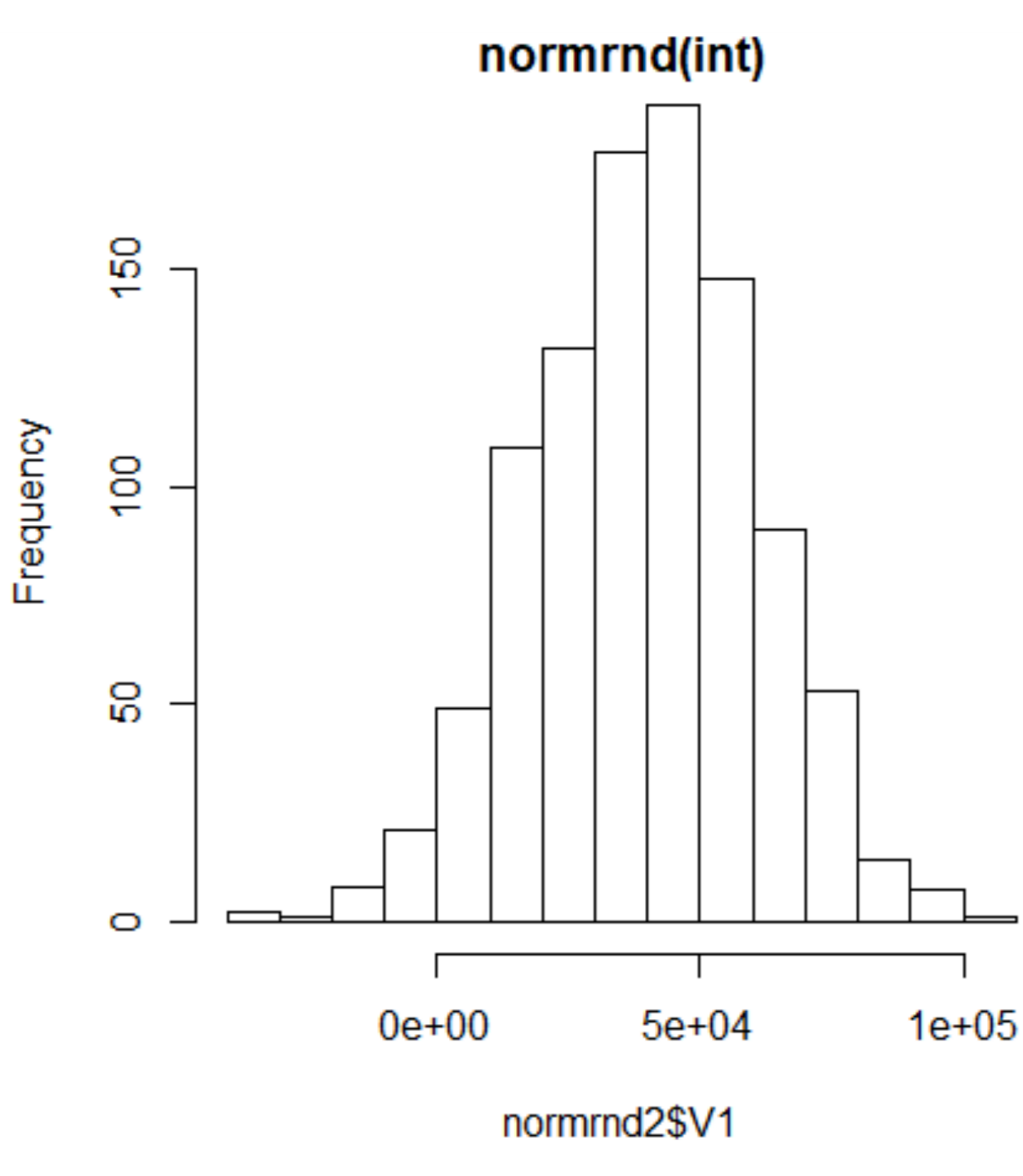


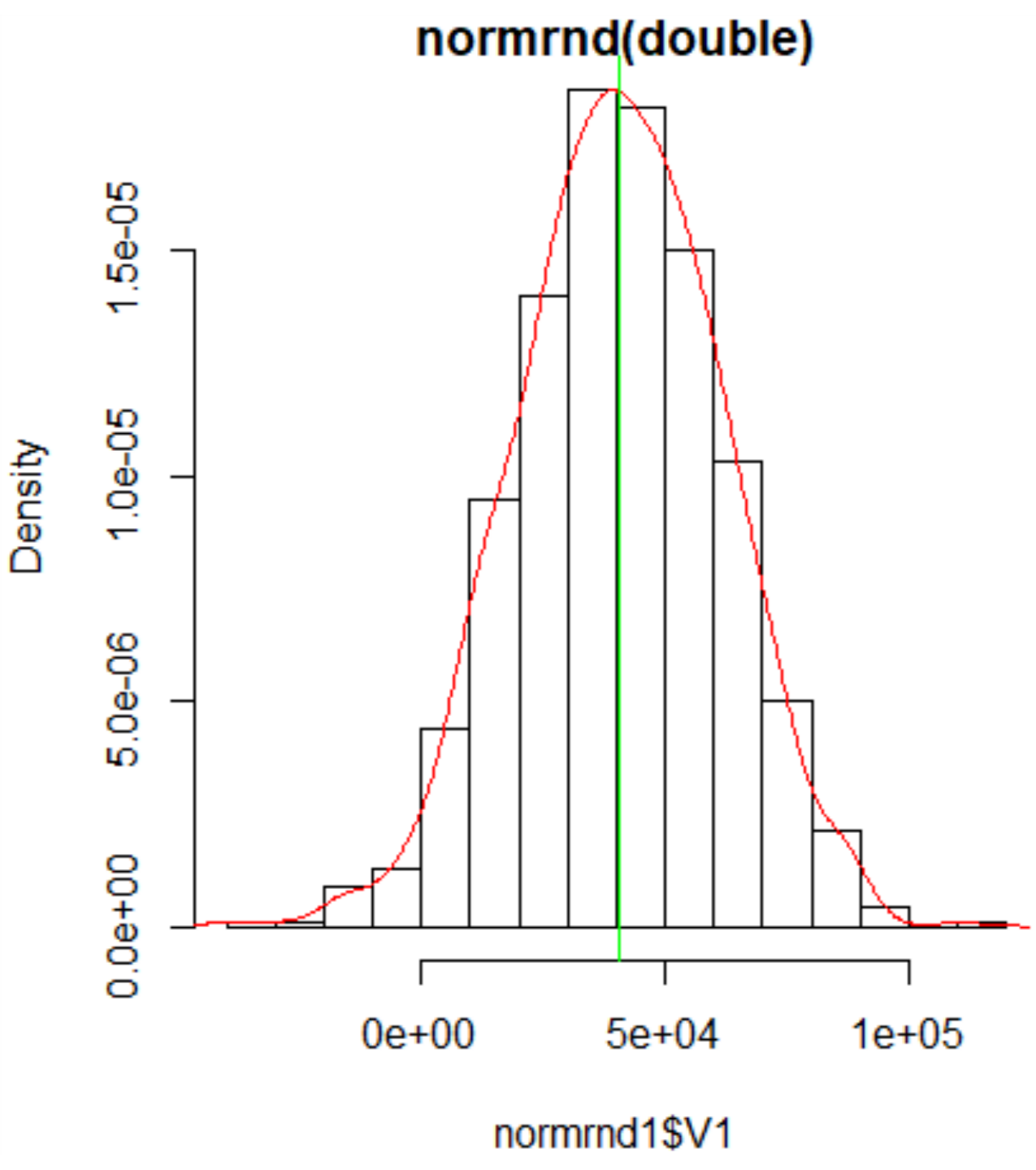

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
0.000063 0.259029 0.506952 0.502718 0.740404 0.999752
```

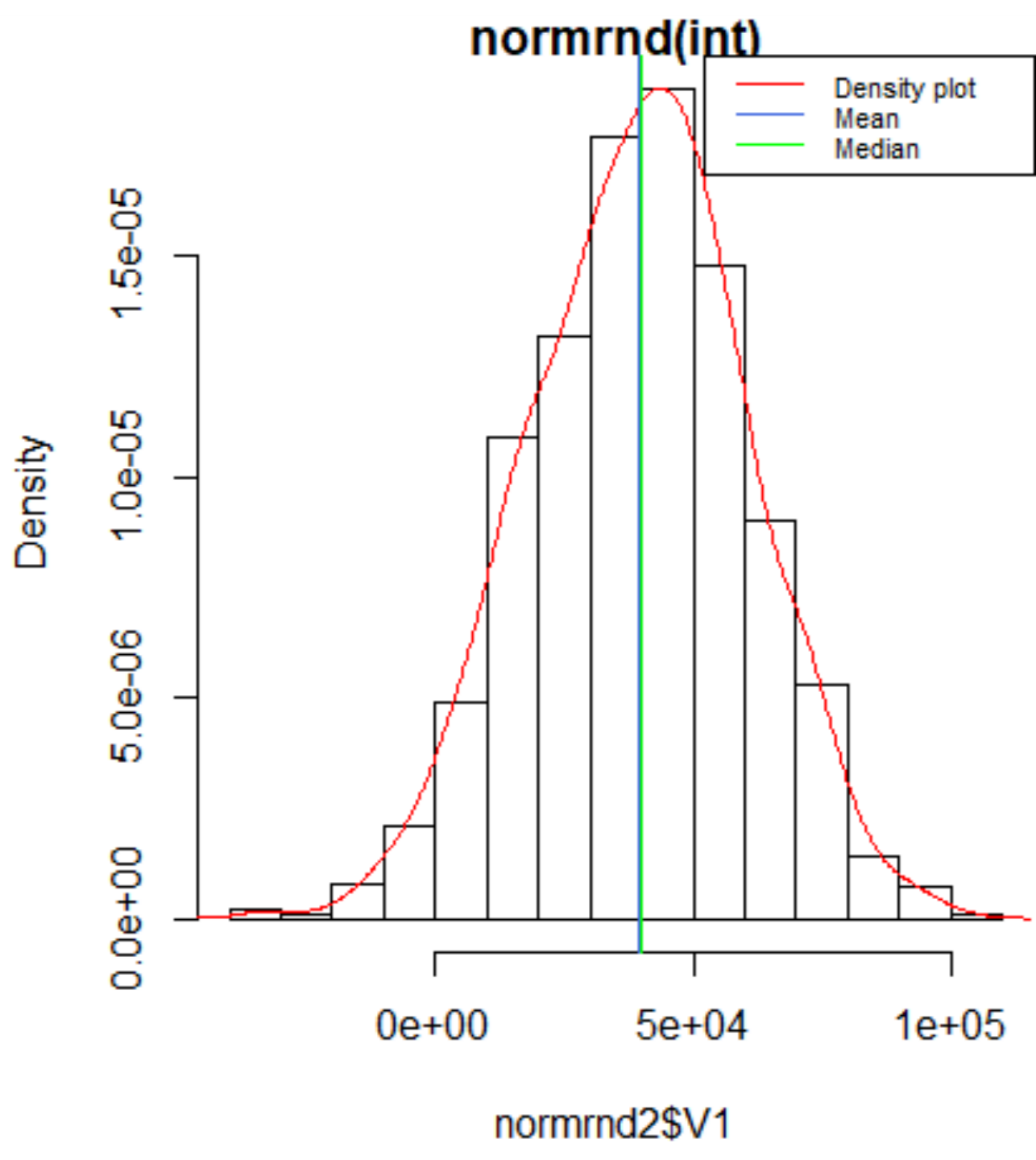


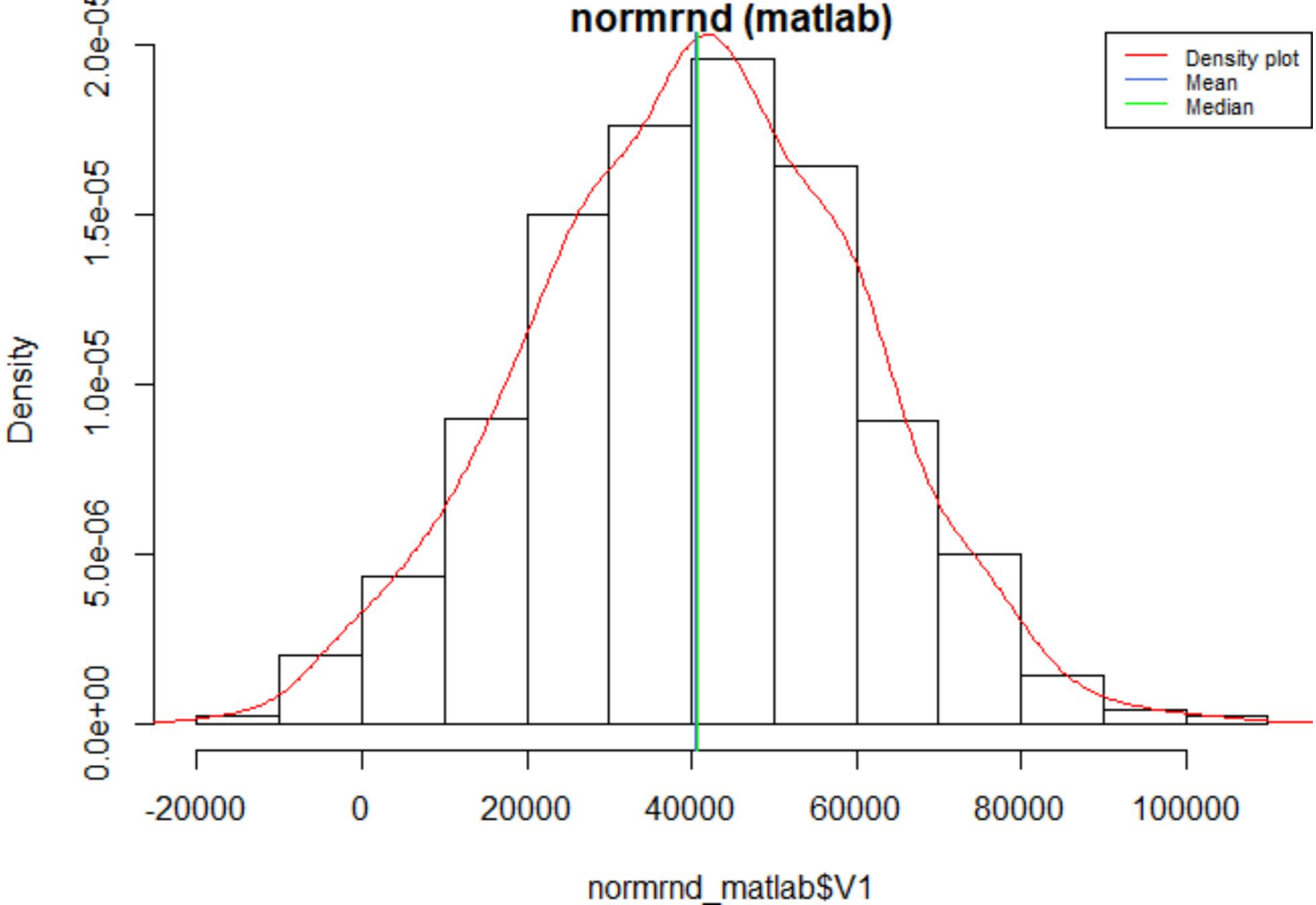

```
     Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
0.000191 0.240554 0.491114 0.489404 0.731828 0.999485
```

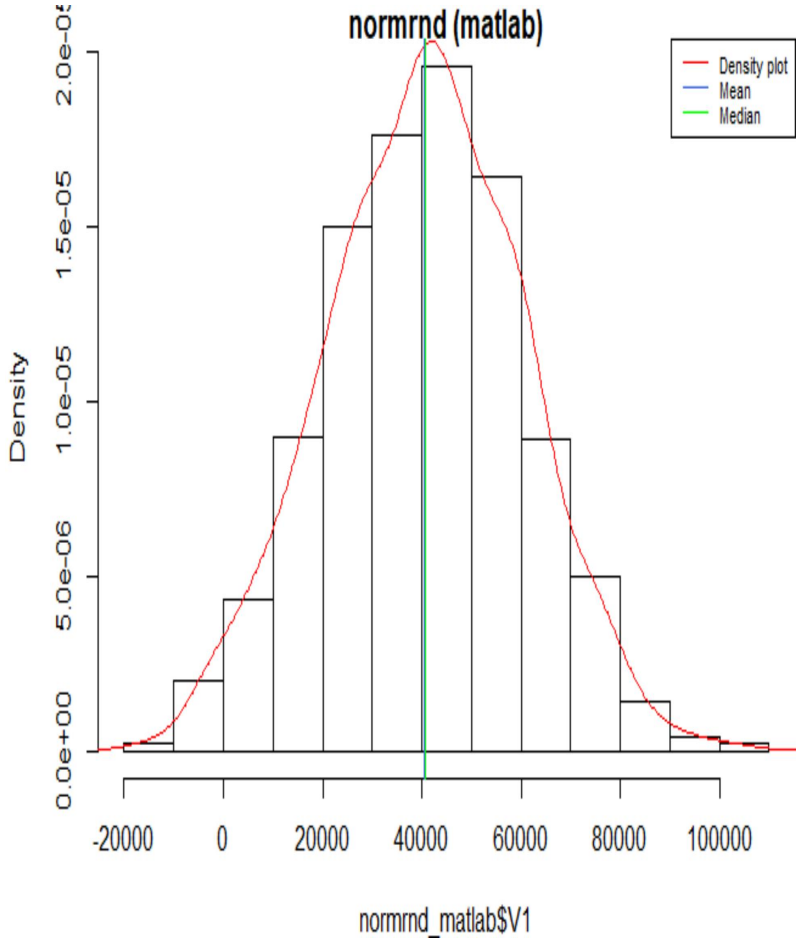

normrnd(double)
Frequency
0
50
100
150
0e+00
5e+04
1e+05
normrnd1$V1

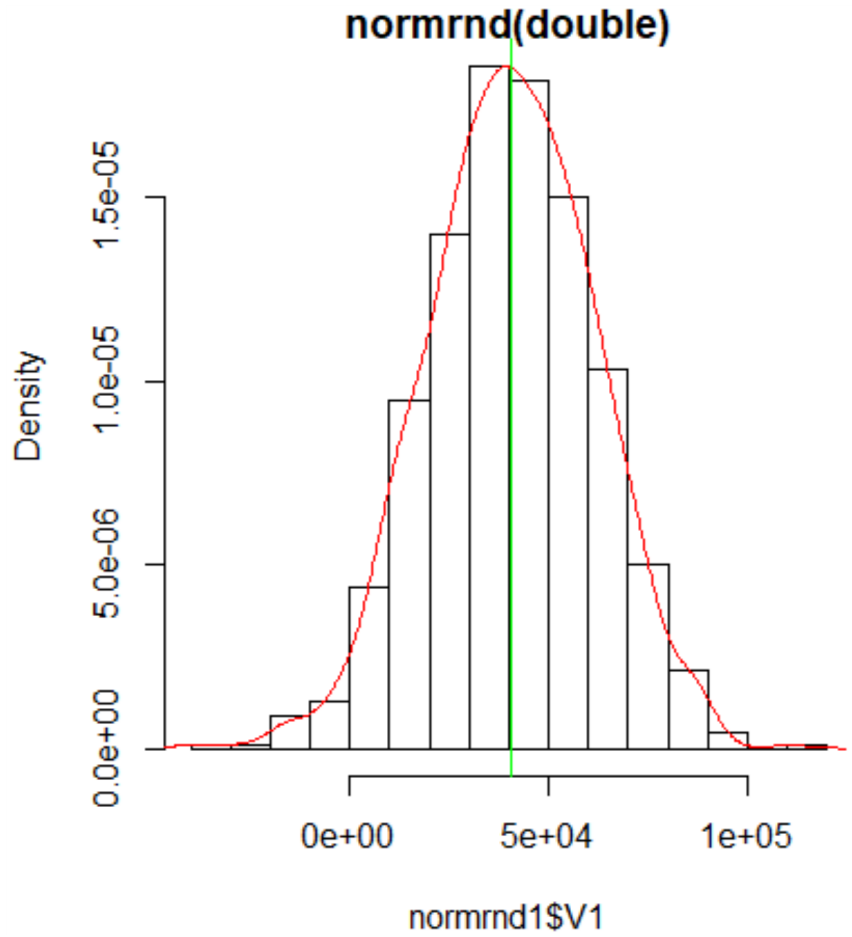

normrnd(int)
Frequency
0
50
100
150
0e+00
5e+04
1e+05
normrnd2$V1

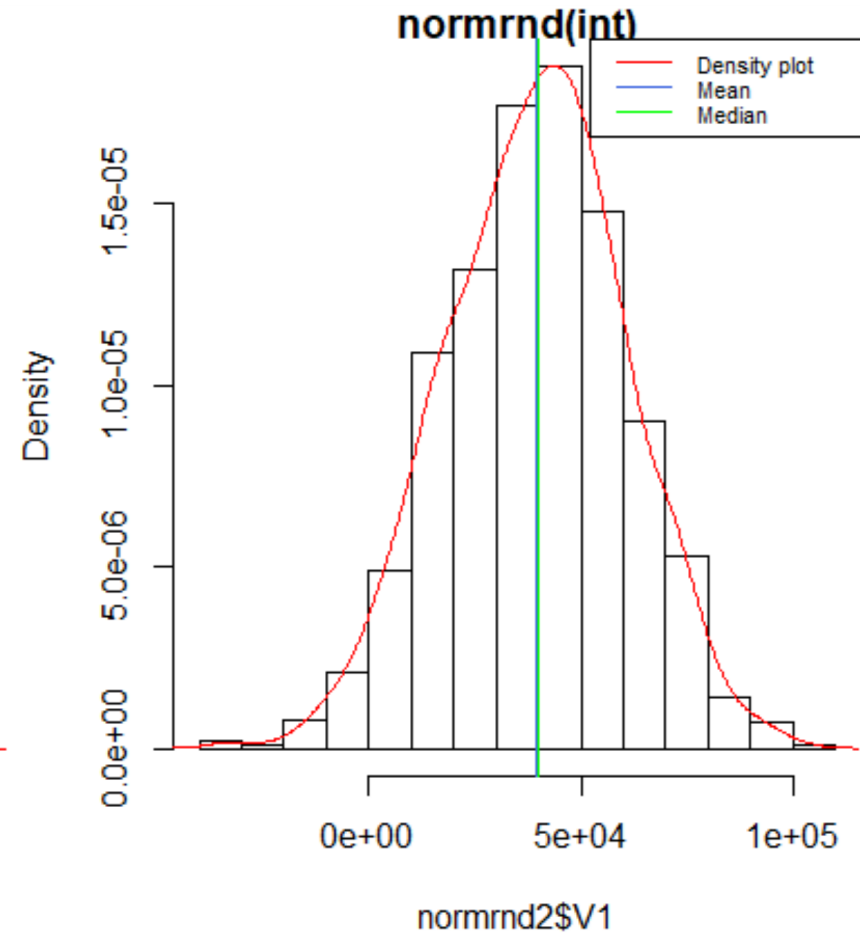

normrnd(double)
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
0e+00
5e+04
1e+05
normrnd1$V1

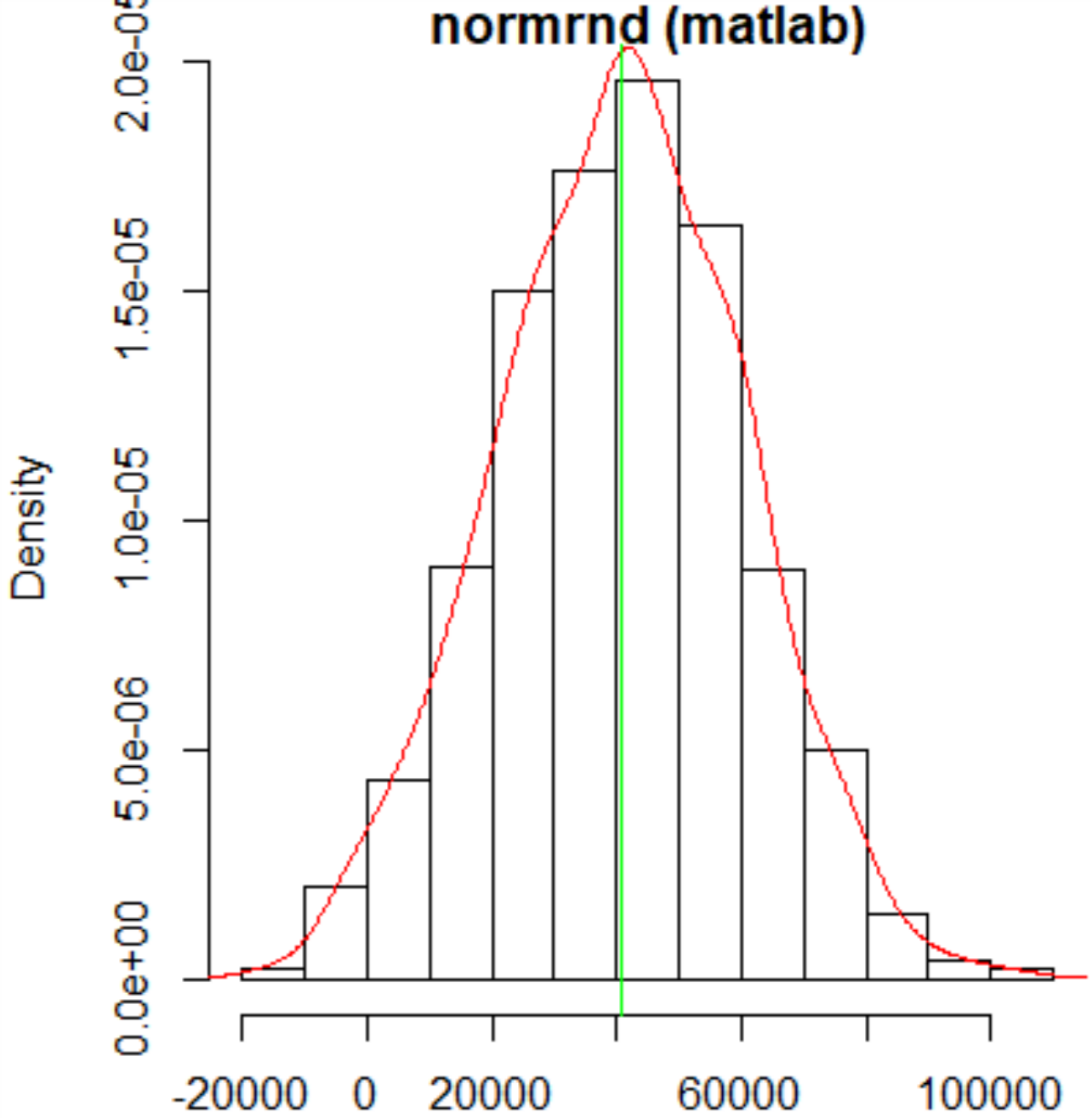

normrnd(int)
Density plot
Mean
Median
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
0e+00
5e+04
1e+05
normrnd2$V1


normrnd (matlab)
Density plot
Mean
Median
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
2.0e-05
-20000
0
20000
40000
60000
80000
100000
normrnd_matlab$V1

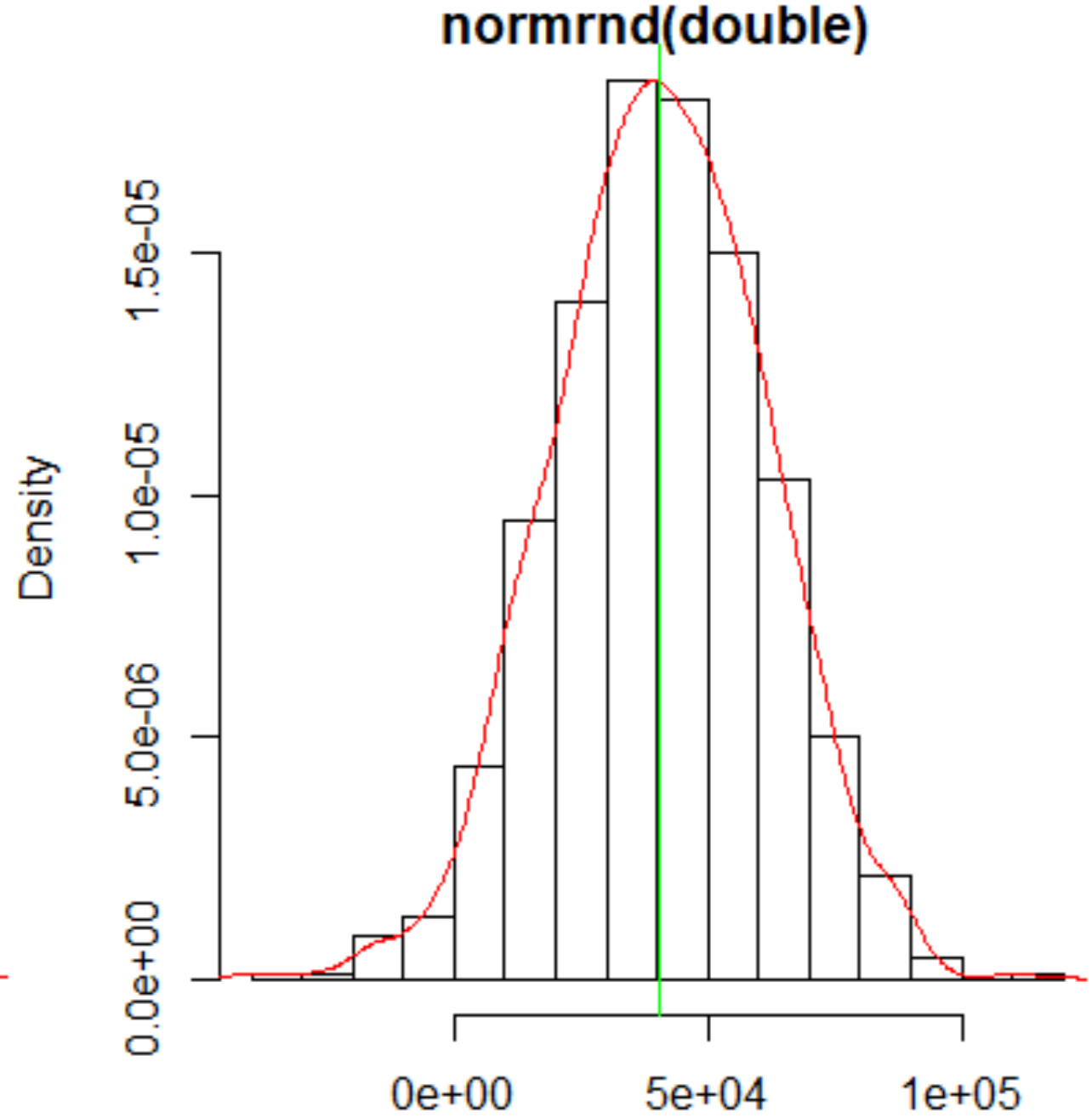

normrnd (matlab)
Density plot
Mean
Median
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
2.0e-05
-20000
0
20000
40000
60000
80000
100000
normrnd_matlab$V1


normrnd(double)
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
0e+00
5e+04
1e+05
normrnd1$V1

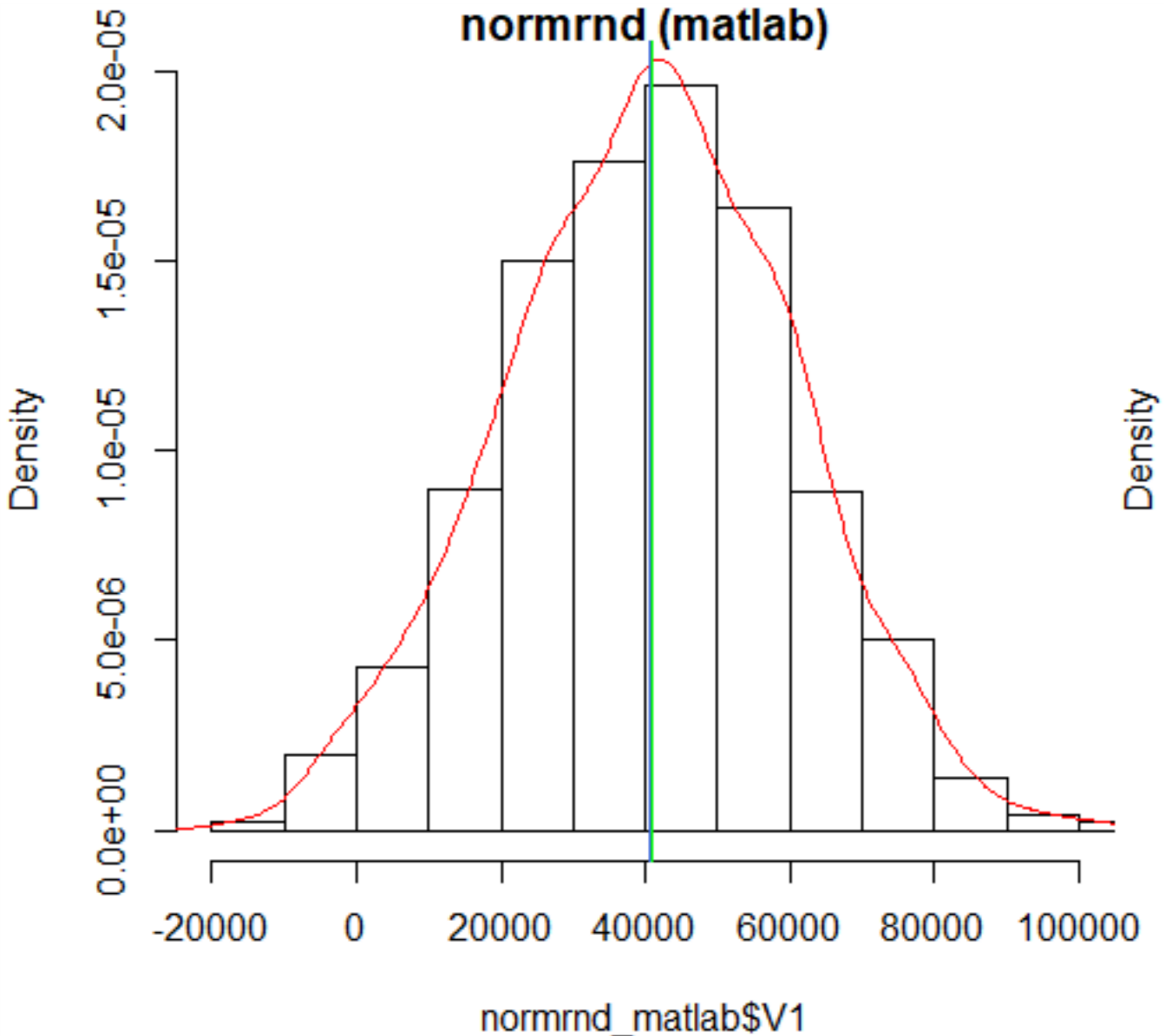

normrnd(int)
Density plot
Mean
Median
Density
0.0e+00
5.0e-06
1.0e-05
1.5e-05
0e+00
5e+04
1e+05
normrnd2$V1



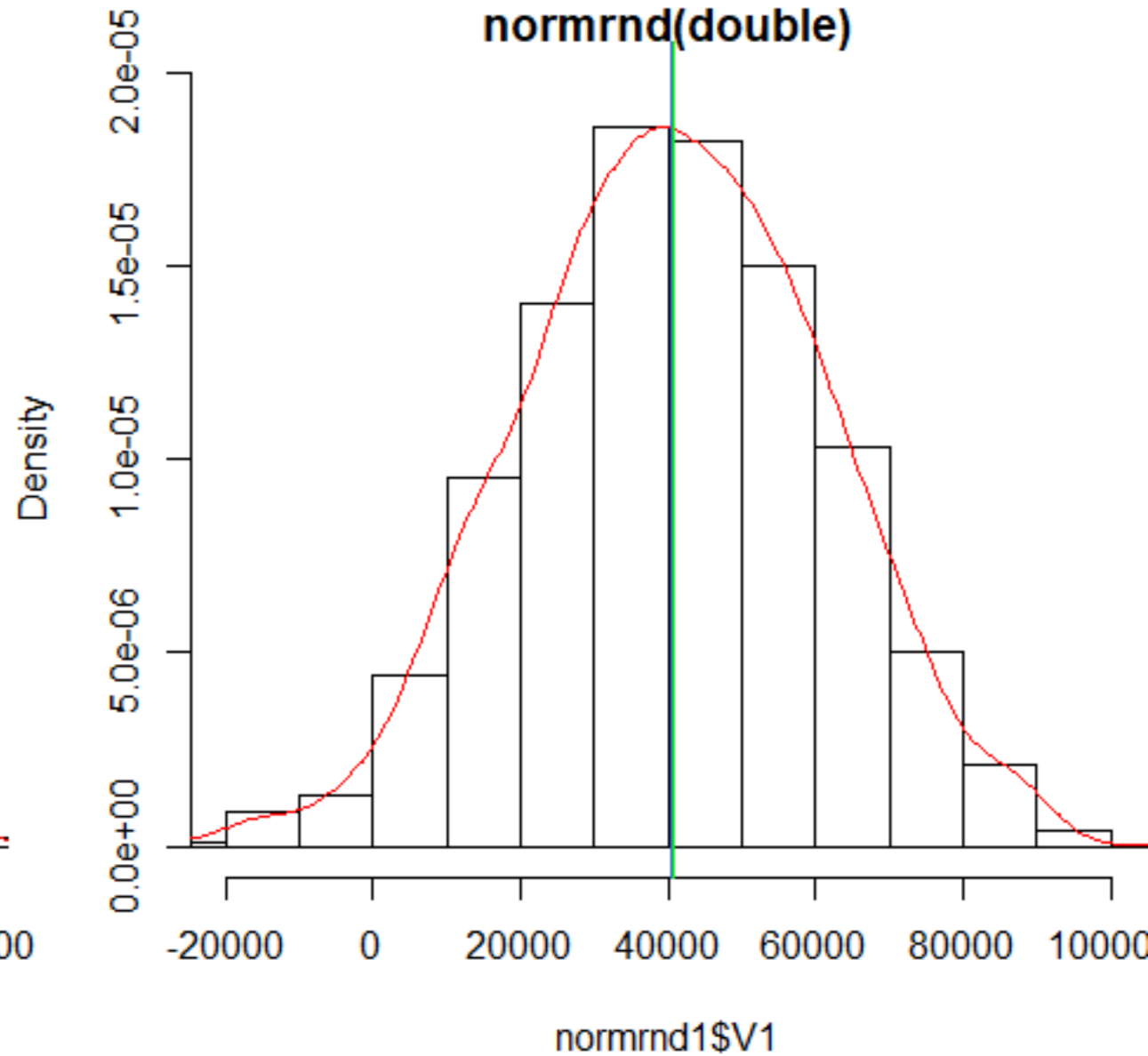

```
summary(normrnd_matlab$V1)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-16395   27331   40749   40576   54028  105324
```



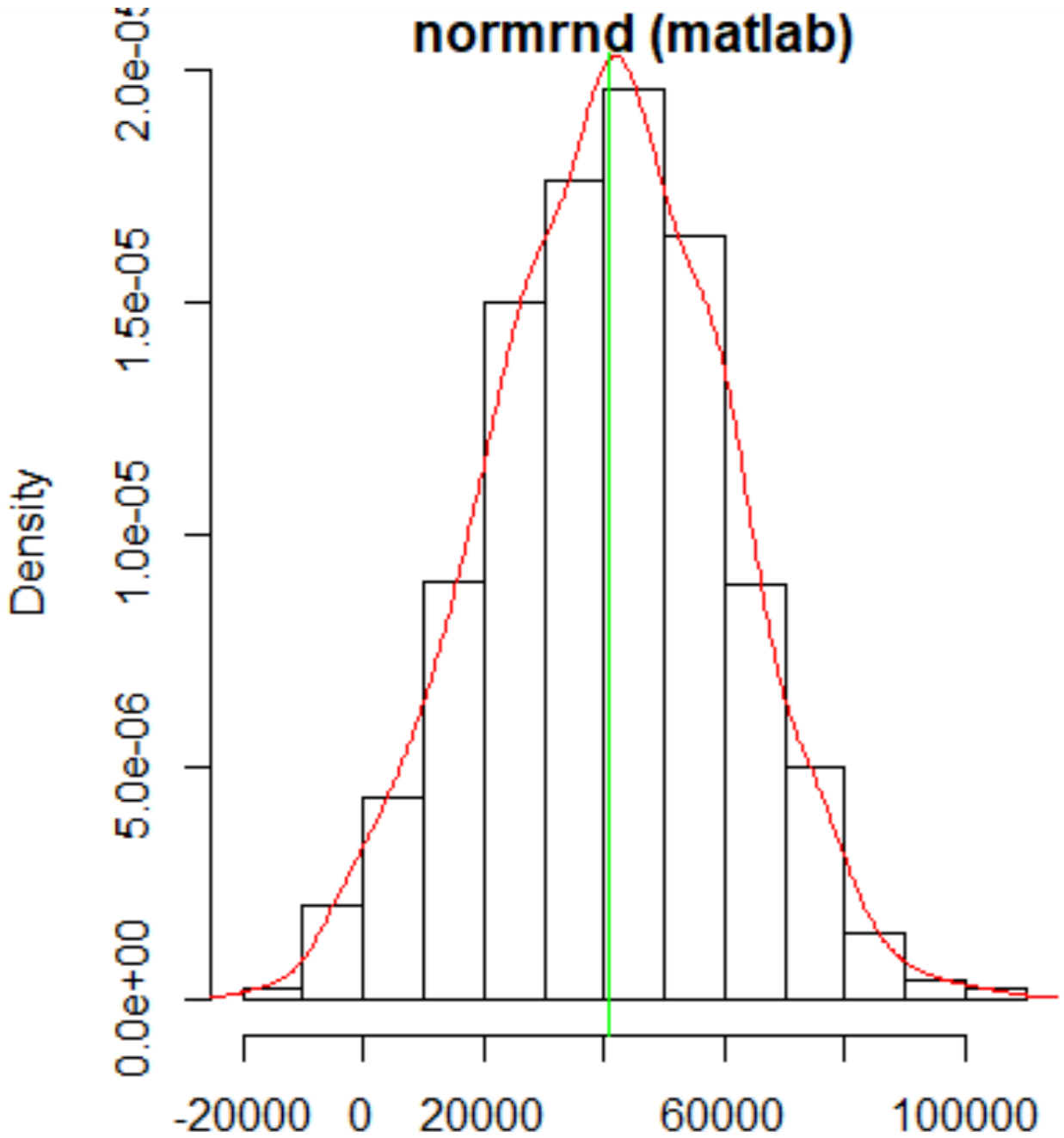

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-39896   26608   40623   40553   54949  110381
```

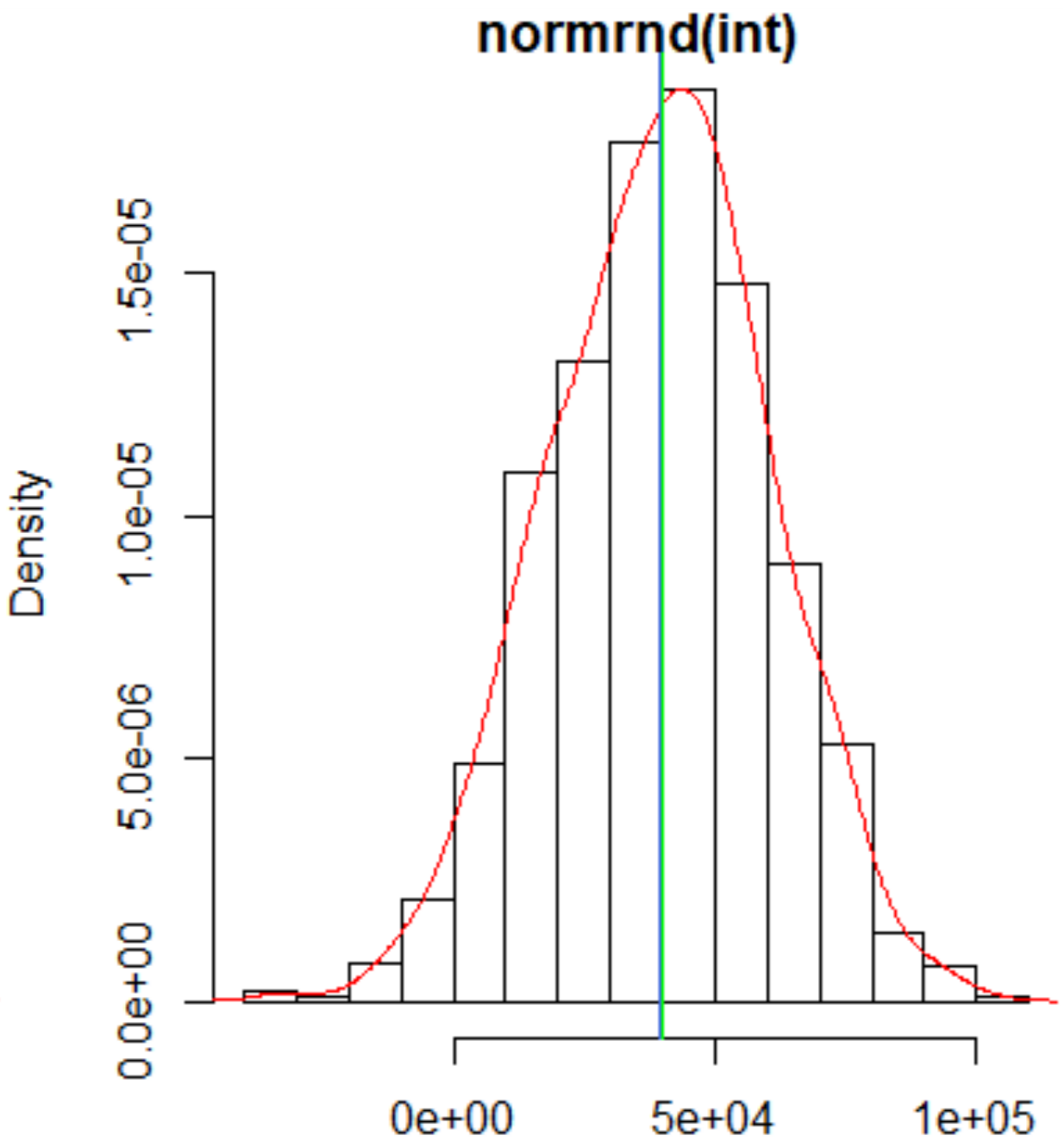



```
summary(normrnd_matlab$V1)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-16395   27331   40749   40576   54028  105324
```



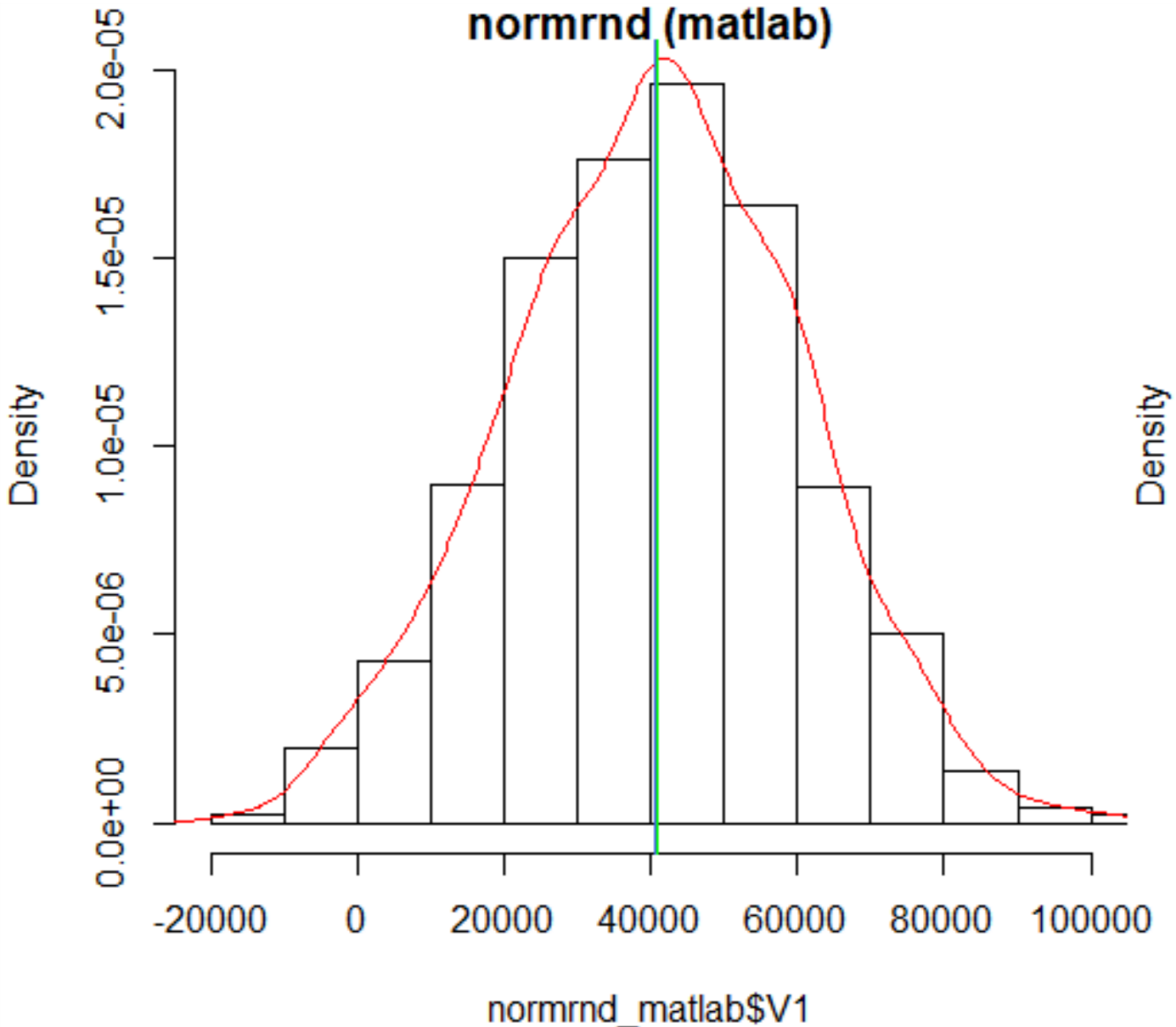

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-39896   26608   40623   40553   54949  110381
```



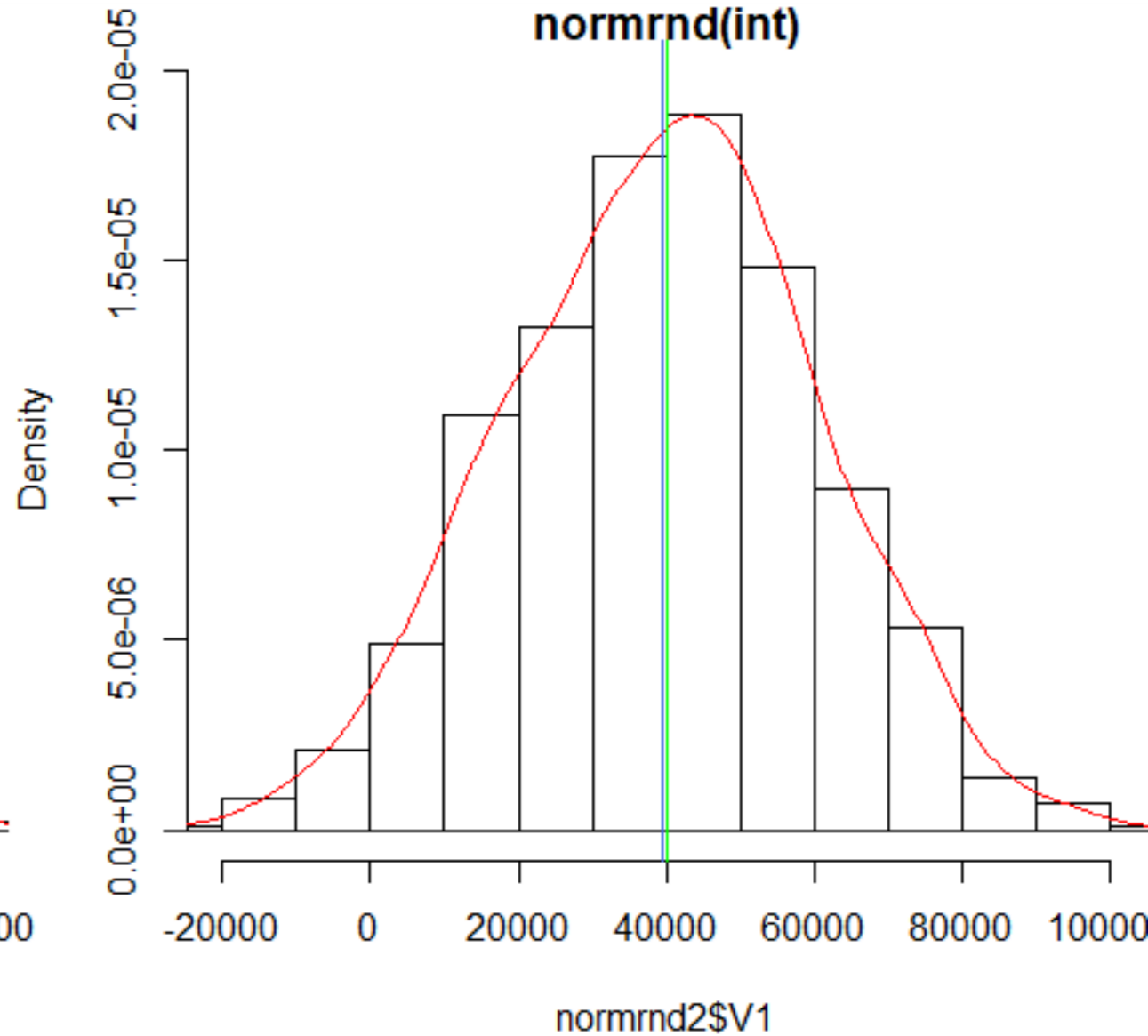



```
summary(normrnd_matlab$V1)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 -16395   27331   40749   40576   54028  105324
```

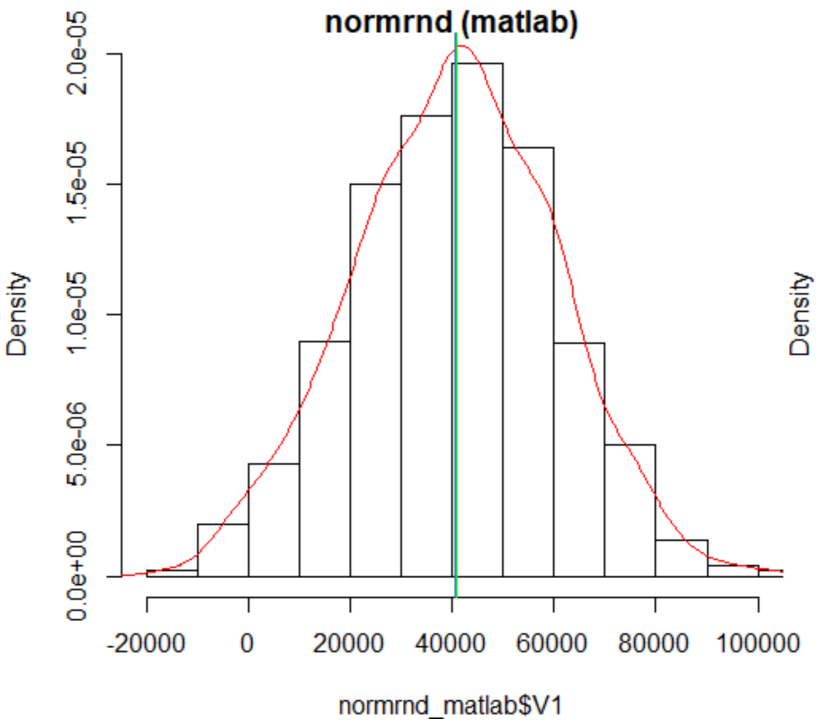
```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 -34749   25120   40139   39360   53309  101177
```

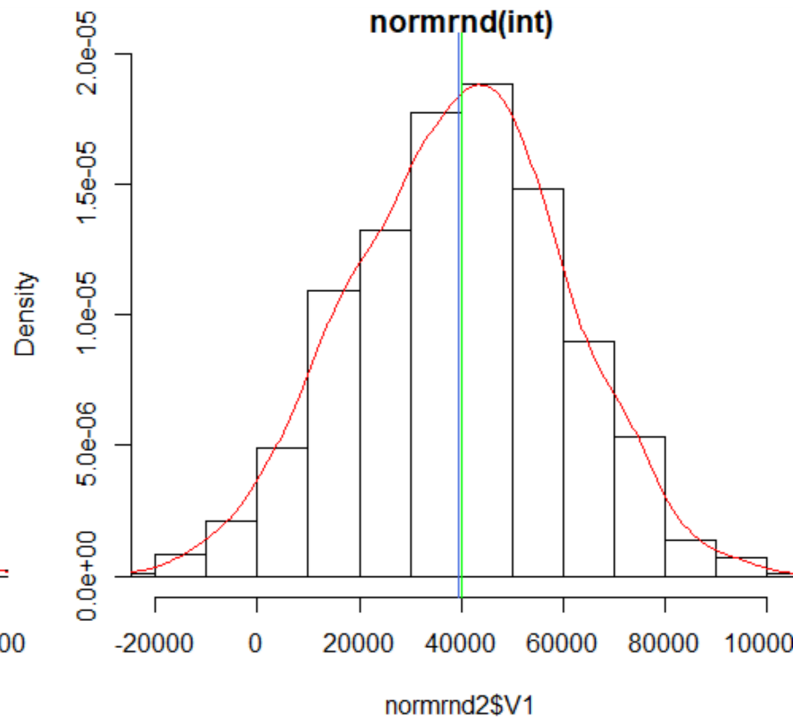


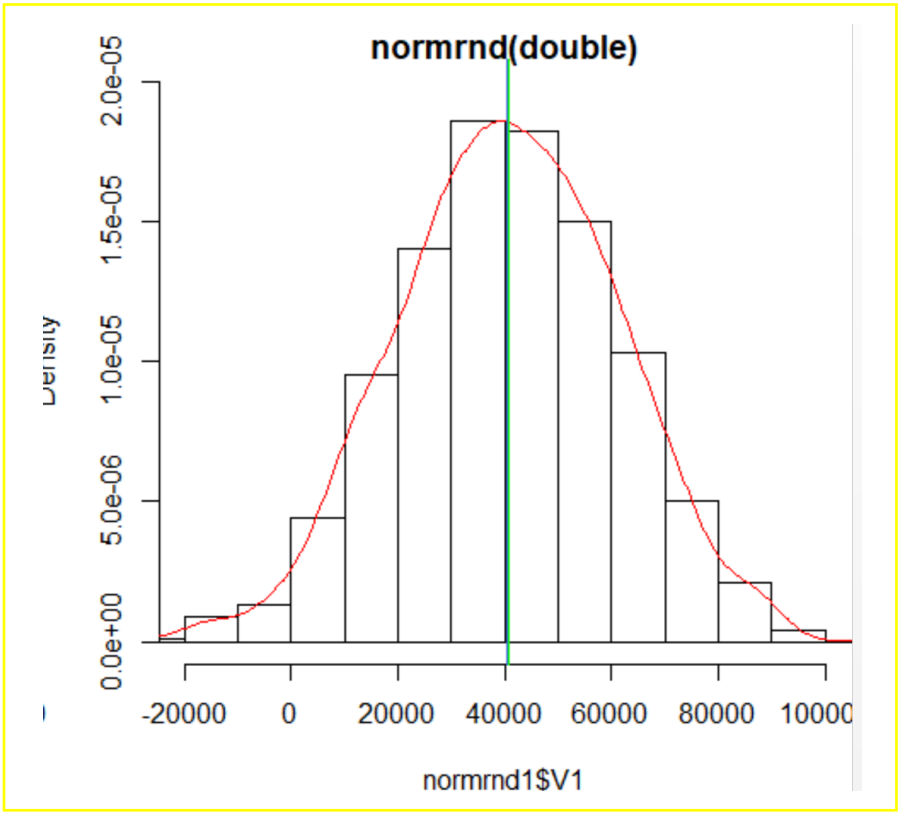

```
summary(normrnd_matlab$V1)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-16395   27331   40749   40576   54028  105324
```




```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-34749   25120   40139   39360   53309  101177
```








```
summary(normrnd_matlab$V1)
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-16395   27331   40749   40576   54028  105324
```

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-34749   25120   40139   39360   53309  101177
```

```
   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
-39896   26608   40623   40553   54949  110381
```

```
➤ sum(normrnd1$V1 > 50000) [1] 329
➤ sum(normrnd2$V1 > 50000) [1] 313
➤ sum(normrnd_matlab$V1 > 50000) [1] 323
```

Checking possible difference using ***kstest*** (Kolmogorov-Smirnov test)

Testing possible difference between **rand** in Matlab and **rand{0,1}** used in CPP

Two-sample Kolmogorov-Smirnov test

data: x (matlab) and y (cpp)

D = 0.036, p-value = 0.5361

alternative hypothesis: two-sided

with p-value of **0.5361**, greater than the significance level of 0.05, we would fail to reject the null hypothesis and therefore conclude that **there is no significant evidence to suggest that the two distributions are different**

Testing possible difference between **randn** in Matlab and **randn{0.0, 1,0}** used in CPP

Two-sample Kolmogorov-Smirnov test

data: x (matlab) and y (cpp)

D = 0.029, p-value = 0.7944

alternative hypothesis: two-sided

with p-value of **0.7944**, considerably greater than the significance level of 0.05, we would fail to reject the null hypothesis and therefore conclude that **there is no significant evidence to suggest that the two distributions are different**

Testing possible difference between **normnd** in Matlab and **normnd(double)** used in CPP

Two-sample Kolmogorov-Smirnov test

data: x (matlab) and y (cpp)

D = 0.025, p-value = 0.9135

alternative hypothesis: two-sided

with p-value of **0.9135**, considerably greater than the significance level of 0.05, we would fail to reject the null hypothesis and therefore conclude that **there is no significant evidence to suggest that the two distributions are different**