Simulation Techniques FRM Examples
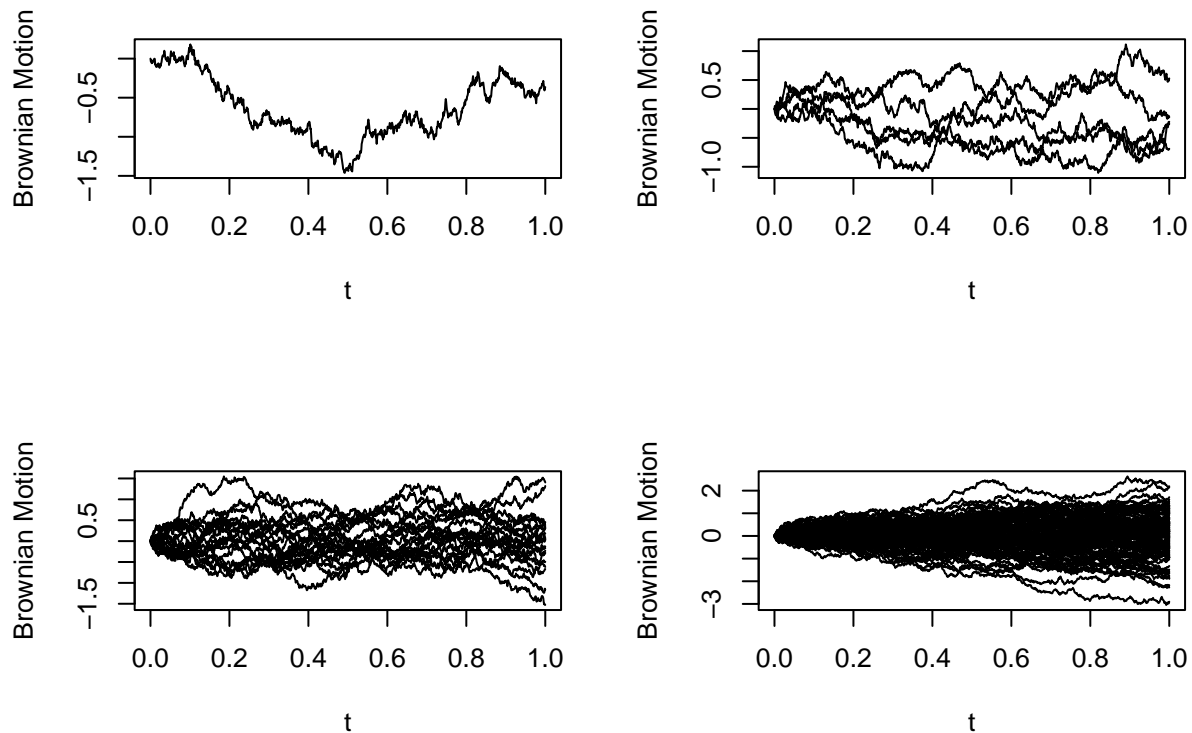
Exercises compilation for academic porpuses, Simulation Techniques Financial Risk Management.

JDM

Info

This file shows the result of some exercises in "ExercisesCompFRMbook.R"

Brownian Motion p15

Excercise pg149

Basket options are often valued by assuming that the value of the portfolio of assets comprising follows the Black-Scholes dynamics jointly rather than each assetfollows the B&S individually.
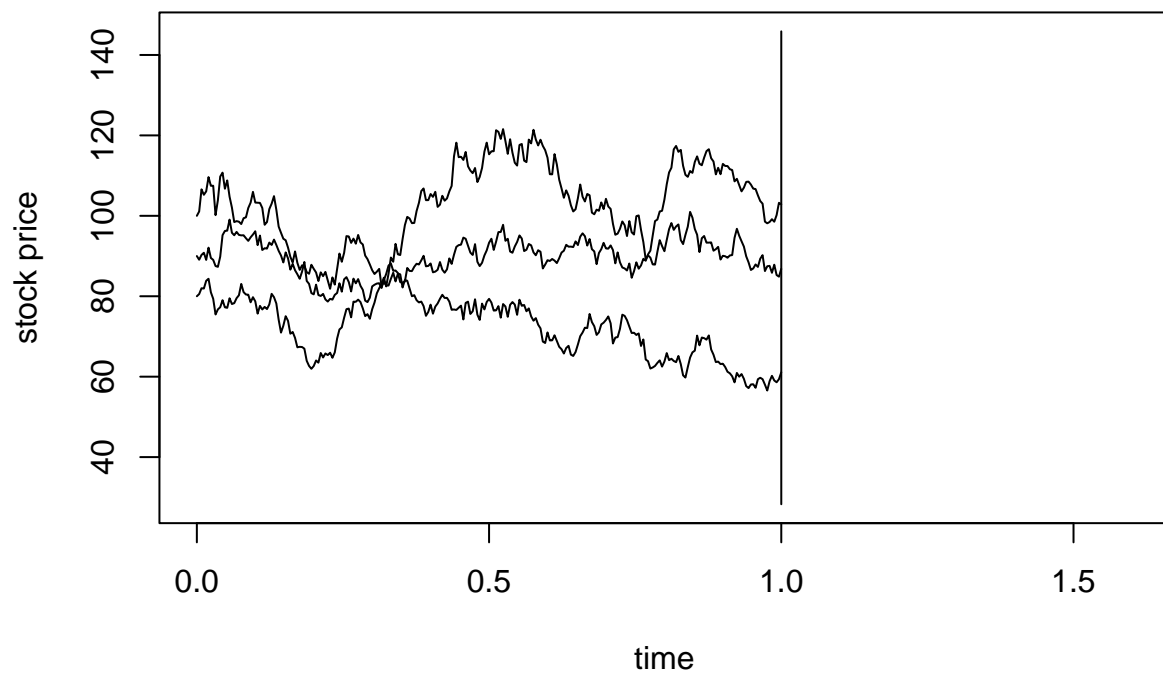
```
##   [1] 270.0000 270.7039 278.8565 277.9615 278.9636 286.0661 277.9682 275.9056
##   [9] 263.1421 267.9556 276.8746 284.9488 280.2234 282.2391 283.3113 275.9060
##  [17] 271.8965 274.2130 274.0462 276.1499 275.6100 274.4715 276.0960 276.4273
##  [25] 281.0823 278.1921 271.6529 275.9075 270.1533 267.0718 267.1158 273.0034
##  [33] 276.3882 278.7476 272.5191 262.7719 256.8724 255.3723 259.8629 255.4096
##  [41] 247.1009 247.5847 247.2412 241.0931 238.3185 241.1849 243.0403 233.7386
##  [49] 231.3341 230.5782 229.9358 232.8184 227.5526 231.9005 230.3504 231.0428
##  [57] 227.9958 227.1826 228.5402 229.2710 237.0720 245.5836 241.9681 249.6825
##  [65] 256.5074 255.3287 249.2226 257.3758 254.9082 258.6674 254.5459 251.4330
##  [73] 244.0815 243.3397 241.9354 245.7014 246.8264 250.0071 252.0325 247.7062
##  [81] 252.0970 250.7266 255.8828 262.1150 260.7508 263.1245 261.8100 259.2116
##  [89] 259.7565 265.4312 270.6313 267.5738 264.4361 265.8307 268.2903 269.5840
##  [97] 273.7581 274.4105 266.4790 267.5455 271.5032 266.3372 269.5207 266.9984
## [105] 270.6431 271.9621 269.1811 270.6254 274.1486 272.1139 281.8297 287.0666
## [113] 284.4395 285.1918 282.7020 288.5217 283.5174 277.7148 277.1284 284.0930
## [121] 272.3904 271.2891 278.3980 282.8039 288.1887 287.9646 288.7730 284.0373
## [129] 291.3446 294.3780 289.7733 297.3891 289.8032 284.6014 288.0354 285.0754
## [137] 283.5083 281.3927 291.8890 289.8457 282.7851 281.1742 288.9407 285.6693
## [145] 286.2155 283.7395 281.8746 282.0097 273.0314 272.5777 274.4158 268.1350
## [153] 268.6175 274.5010 269.8793 265.8659 264.4799 261.5647 266.2482 265.0043
## [161] 260.4409 258.4734 261.4160 265.0979 272.6716 271.3755 270.6773 270.1318
## [169] 274.9387 266.0535 264.0991 259.8986 263.0413 268.0381 268.3855 270.2291
## [177] 269.1270 267.6266 257.7321 253.2044 256.2943 257.1017 261.1674 259.6930
## [185] 255.4254 259.2650 251.3767 252.4829 258.7271 257.7025 251.7951 252.0333
## [193] 242.2636 244.4287 242.9589 245.3064 249.2435 253.5402 259.1102 256.2295
## [201] 258.9826 267.6995 271.5634 274.6131 276.9371 278.3447 278.9170 273.5233
## [209] 265.7360 265.2330 269.3766 276.8844 276.2710 276.5940 280.2951 271.7343
## [217] 276.7439 279.0253 278.6152 280.1557 274.4947 270.3016 265.6451 267.9907
## [225] 262.6025 266.2176 264.7621 263.1786 262.5743 261.7328 261.6829 266.9210
## [233] 262.6761 260.4049 258.8239 256.0284 254.0993 252.3685 251.7977 251.8100
## [241] 251.7443 252.7475 252.6142 242.8357 242.1515 244.9055 245.2056 245.4352
## [249] 244.0545 247.4822 250.7475


##              [,1]      [,2]      [,3]
## [1,] 1.0000000 0.2899696 0.3550574
## [2,] 0.2899696 1.0000000 0.3456864
## [3,] 0.3550574 0.3456864 1.0000000
```

```
## [1]   61.08309 102.85470   86.80971
```

```
## [1] 22.0934
```

```
## [1] 26.48602
```