Scott Sidoli

6/14/19

Group D

1. First, we note that with the added functionality, the code compiles.
2. For batch 1 we set

NSim = 50000 and N = 100: NSim = 50000; N = 200: NSim = 50000; N = 300

  

NSim = 150,000; N = 100: NSim=150000; N = 200 NSim = 150000; N=300

  

NSim = 500,000; N = 100: NSim=500000; N = 200 NSim=500000; N=300

  

Based on these finding we can conclude that standard deviation appears to decrease as NSim goes to infinity. But we are inclined to think that we are approaching a value (4.525 ± 0.002). As NStep goes toward infinity, there doesn’t appear to be any pattern that can’t be attributed to sampling variability. Now SE, on the other hand, diminishes significantly as NSim goes toward infinity, but this is obvious given the formula.

For Batch 2 we set

NSim = 50000; N = 100 NSim = 50000; N = 200 NSim=50000; N=300

  

NSim = 150000; N = 100 NSim=150000; N=200 NSim = 150000; N=300

  

NSim = 500000; N = 100 NSim=500000; N=200 NSim=500000; N=300

  

For batch 2, patterns are less apparent. In the future, we may consider using smaller values for NSim/N.