MA 323 (2020) Monte Carlo Simulation: LAB 07
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Problem I-II

Estimated values of μ *and* σ^2 are as follows:

1. $\mu = 0.0002981060700200028$
2. $\sigma^2 = 0.0004964753607186511$
3. $\sigma = 0.022281727058705552$

Comparison between Actual Stock Price and Expected Stock Price according to the gBm model of $ds(t) = \mu s(t)dt + \sigma s(t)dw(t)$:

Simulation I:

Sr. No.	Date	Actual Stock Price	Expected Stock Price	% Error
1.	7th October 2020	190.699997	185.65776338132164	2.6440659140012217
2.	14th October 2020	200.050003	185.95562485677817	7.045427609027246
3.	21st October 2020	203.750000	186.6960801182285	8.370022027863309

Simulation II:

Sr. No.	Date	Actual Stock Price	Expected Stock Price	% Error
1.	7th October 2020	190.699997	185.55429188232188	2.698324697759759
2.	14th October 2020	200.050003	185.77028344489582	7.138075151693039
3.	21st October 2020	203.750000	186.39950044105035	8.51558260561946

Simulation III:

Sr. No.	Date	Actual Stock Price	Expected Stock Price	% Error
1.	7th October 2020	190.699997	185.51802124567615	2.717344434108116
2.	14th October 2020	200.050003	186.1016571871719	6.972429694404007
3.	21st October 2020	203.750000	186.34705419834552	8.541323092836556