MA323 – Monte Carlo Simulation

Lab - 06

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Value of M	95% Confidence Interval	Exact Value of I	Estimated Value of I (I_M)
100	(1.861093, 2.018619)	2.0	1.939856
1000	(1.965119, 2.018862)	2.0	1.991991
10000	(1.989242, 2.006582)	2.0	1.997912
100000	(1.9965, 2.001995)	2.0	1.999248

By using the monte-carlo estimator, the above data is obtained for samples of size M = 100, 1000, 10000, 100000. We see that as the sample size increases, the estimated value is getting closer to the exact value, also, the length of confidence interval is getting smaller with increase in sample size. This shows that the monte-carlo estimator is correctly estimating the required value.