

MA 323 - Monte Carlo Simulation Assignment - 9

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1 QUESTION - 1:

The rate of interest (r) is taken as 4 %.

Quantity	Value
$\hat{\mu}$	18.053849442071375
$\hat{\sigma}$	11.7158041629235
95% confidence level	[17.32769637687509, 18.78000250726766]

2 QUESTION - 2:

The rate of interest (r) is taken as 4 %.

Quantity	Value
$\hat{\mu}$	18.053849442071375
$\hat{\sigma}$	6.489405663719669
95% confidence level	[17.651631911931617, 18.456066972211133]

Observations:

1. The average option price ($\hat{\mu}$) is same in both the cases which was as expected.
2. After making use of control variate in part 2, the variance ($\hat{\sigma}$) decreased from value of 11.7 to 6.5. Thus control variate helped in reducing the variance of the option price.