Monte-Carlo Simulation Assignment: 09

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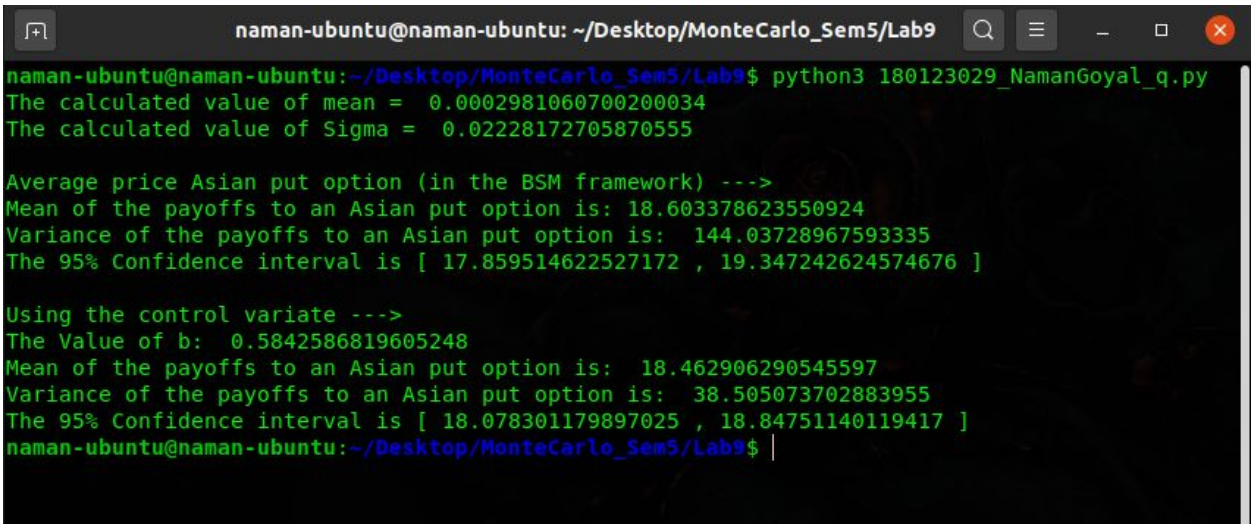
Problem Solution:



- **For Part1**, the value of Payoff is calculated using the formula given in the Assignment PDF. $\max\left[\left(K - \frac{1}{N+1}\sum_{i=1}^{N+1} S(t_i)\right), 0\right].$
- **Stock Value** is Calculated using the formula for Stock Price used in the last Assignment. Using the above values **Mean**, **Variance,** and **95% Confidence Interval** is Calculated.
- **For Part2, Using Control Variables** the value of **b** is calculated using the formula given in lectures. Then the corresponding **Mean**, **Variance**, and **95% Confidence Interval** is calculated.
- In this case, the payoff will be $\max\left[\left(K - S(T)\right), 0\right].$

Payoff of Asian Put Option	Mean	Variance	95% Confidence Interval
Part1	18.603379	144.0372896	[17.859515, 19.347243]
Part2	18.462906	38.505074	[18.078301, 18.847511]