MA 323 - Monte Carlo Simulation Assignment - 7

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1 QUESTION - 1:

The mean and std deviation are as follows :

μ = 0.00029810607002

$\sigma = \sqrt{0.000496475360719}$ = 0.0222817

The expected stock prices are:

Sl No.	Date	Expected Stock Price
1	7th October, 2020	185.877333115
2	14th October, 2020	186.728656649
3	21st October, 2020	187.11342697

2 QUESTION - 2:

Sl No.	Date	Expected Price	Actual Price	Percentage Error
1	7th October, 2020	185.877333115	190.7	2.52892862366 %
2	14th October, 2020	186.728656649	200.05	6.65900692364 %
3	21st October, 2020	187.11342697	203.75	8.16518921708 %

- Following dates were considered as holidays in the computation of the prices:
  - 2nd Oct, 3rd Oct, 4th Oct
  - 10th Oct, 11th Oct
  - 17th Oct, 18th Oct
- The expected stock prices were calculated sequentially from 30th September upto 21st October. The process was simulated for 1000 iterations and their mean was then calculated.
- The random normal variables are calculated using python's inbuilt module numpy.random.normal()
- Since the random numbers are not seeded, the values differ on each new execution of the entire code.