(b)

Q2(b):Histogram of ending value for simulations

By histogram, ending values follow the normal distribution.

Also, p value of Kolmogorov-Smirnov test for ending value of simulations: 0.2551, which means H0 (value follow normal distribution) is not rejected.

(c)

Lookback put option price with strike 100 under the Bachelier model is 7.4585, which is less than put price by BS formula in HW1

(d)

delta vs eps
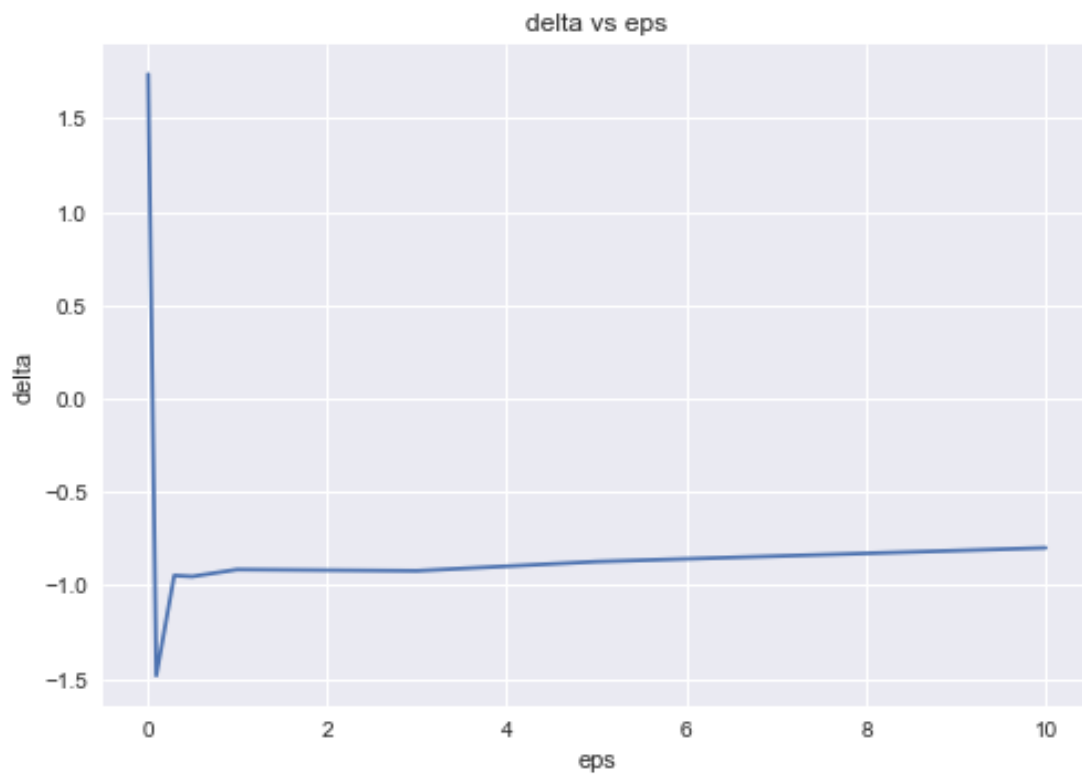
When eps is small, smaller or equal to 0.1, the approximate delta is far away from the [-1,0] and has large error. Because the effect on put price by small eps is less than the volatility of simulation.

When eps is around 0.5 - 1, I believe the approximation is optimum.

When eps increase from 1, the delta will keep increasing.