**Quiz 3 – Derivative Securities**

The assignment is to be done individually. Put your answer for 1-a and 1-b and post your matlab code, not word file, in t-square.

1. The following is true or false? DO NOT explain why.
   1. In pricing derivatives with simulation, we use small dt due to LLN
   2. In pricing derivatives with simulation, we use large N\_simulation due to CLT
2. The stock follows the GBM (as in Black Scholes model) as where . And, the risk free rate is 3% (annualized continuously compounded yield). S\_0(today’s price) is 100. Use dt as 1/20. Find the price of KIKO described as below:
   1. Basically, it is a put option with K=100\*exp(0.03\*2) and T=2
   2. Knock-In: If the stock price goes above 120, the five short positions of futures with T=2 and F=100\*exp(0.03\*2) are activated.
   3. Knock-Out: If the stock price goes below 90, the put option is eliminated.