**2.1 Monte Carlo Simulation**

The process of using Monte Carlo Simulation to price spread option is similar to the process of pricing European Vanilla Option. The initial step is to generate two related stock price sequences. The formula is:

We can do the simulation for many times, for example, 10000 times, and get 10000 simulation paths. Then we need to calculate the payoff of each simulation path on the expiry date. The formula is:

Option value is the mean of all the 10000 payoffs.