

Xiaotong HWT.

Pseudo code

procedure: Euler CEV (T, W, n, x).

x: Initial State.

T: terminal time.

N: number of meshes

n: — — of paths.

$\delta \rightarrow \frac{T}{N};$

$\gamma: 0.$

K:

$\sigma:$

Sum $\rightarrow 0$

otype:

r.

for $j=1, 2, \dots, 3 \dots n$ do;

$S_0^j: i=0, 1, \dots, N-1$ do;

$Z \rightarrow N(0, 1).$

$S_{i+1}^j \rightarrow S_i^j + 0.5 S_i \delta + \sigma S_i^j \sqrt{\delta} Z.$

if $(S_N^j - K) \cdot \text{otype} > 0$

Sum + $(S_N^j - K) \cdot \text{otype}.$

Return: $\frac{e^{rT} \cdot \text{Sum}}{n}.$

②. Simulate option price: $P_1 = 11.125$

BSM: $P_2 = 11.01461$

Simulated equals BSM.