Part B)

TEST 1: **NSIM** = 40,000 , **NT** = 100

Output:

**(BATCH # 1)**

Price, after discounting: Call = 2.10406, Put = 5.87041

**CALL SD (Batch Number: 1)**

SD: 0.00591031

SE: 2.95515e-05

**Put SD (Batch Number: 1)**

SD: 0.0166825

SE: 8.34123e-05

**(Batch # 2)**

Call = 7.98792, Put = 8.02462

Number of times origin is hit: 0

**CALL SD (Batch Number: 2)**

SD: 0.0231033

SE: 0.000115516

**Put SD (Batch Number: 2)**

SD: 0.0232238

SE: 0.000116119

TEST 2: **NSIM** = 60,000 , **NT** = 100

Price, after discounting: Call = 2.11739, Put = 5.88465

**(Batch #1)**

**CALL SD (Batch Number: 1)**

SD: 0.00486845

SE: 1.98754e-05

**Put SD (Batch Number: 1)**

SD: 0.0135948

SE: 5.55004e-05

Price, after discounting: Call = 7.95921, Put = 7.95942

**Batch #2**

**CALL SD (Batch Number: 2)**

SD: 0.0187791

SE: 7.66655e-05

**Put SD (Batch Number: 2)**

SD: 0.0188087

SE: 7.67861e-05

Analysis

According to these Test it seems that as **NSIM** increases, SE decreases and so does **SD**. Though **NT** does not affect SE/SD directly, it does effect the option price at T = t. So as NT increases K decreases, and if the parameters remain the same then the simuated S(T) decreases closer to the exact solution. And so SE/SD gets decrease if we increase **NT**