**======HW 9.F Report======**

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a) FDM Method

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| Batch# (N set to 9999) | Value Given By FDM | Real Value |
| Batch1 | 5.842068 | 5.84628 |
| Batch2 | 7.963211 | 7.96557 |
| Batch3 | 4.071285 | 4.07326 |
| Batch4 | 65535 | 1.24750 |

**From the result, we can see the FDM method output very accurate price for Batch 1, 2 and 3. However, for batch 4, the FDM method seems encountered some numerical error, which output 65536 as the result. Except for this, we can still claim that FDM works very well in predicting the actual result.**

b) Analysis of FDM Method

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| --- | --- | --- | --- |
| Batch 1 | N | Value | Real Value |
| 9999 | 5.842068 | 5.84628 |
| 4999 | 5.842093 | 5.84628 |
| 1999 | 5.842167 | 5.84628 |
| 1499 | -8.9E+17 | 5.84628 |
| 999 | -4E+45 | 5.84628 |
| 899 | -1.6E+35 | 5.84628 |

In this exercise, I change N to multiple value and check the value given by FDM in batch 1.

**Conclusion: We find the output of FDM is very stable and accurate when N >= 1999. When N <1999, the results output by the FDM become very unreasonable.**