FDM

Comparing accuracy of FDM with exact methods

It is observed that the FDM produces results over a range of values of S. In the code this range is S = 0 to S = 5 * K where K is the strike price of the option.

From the excel output of the 4 batches, we contrast the result produced by FDM and exact methods at the stock price originally part of the respective batch set.
We compare the put prices from all the batches

Batch	T	K	sig	r	S	Exact Put Price	FDM Put Price	Error
1	0.25	65	0.3	0.08	60	5.84628	5.842068283	-0.004211717
2	1	100	0.2	0	100	7.96557	7.963211	-0.002359
3	1	10	0.5	0.12	5	4.07326	4.071285	-0.001975
4	30	100	0.3	0.08	100	1.2475	1.192624237	-0.054875763

Note: J and N values were experimented with specifically for batch 4. With the given code, the output was coming out to be 65535