

MA473 LAB REPORT-3

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CALL OPTION PRICES

	closed-form	crank-nicolson	explicit	implicit
Time				
0.00	7.8557	7.8164	7.8528	7.8146
0.25	6.6057	6.5985	6.6024	6.5971
0.50	5.1941	5.1894	5.1899	5.1880
0.75	3.4809	3.4743	3.4750	3.4724
0.95	1.4373	1.4223	1.4224	1.4179

PUT OPTION PRICES

	closed-form	crank-nicolson	explicit	implicit
Time				
0.00	4.0115	4.0083	4.0086	4.0074
0.25	3.6939	3.6902	3.6905	3.6892
0.50	3.2335	3.2289	3.2294	3.2276
0.75	2.4909	2.4842	2.4849	2.4824
0.95	1.2377	1.2227	1.2232	1.2183

The above are the results of the code.

Crank nicolson is second order accurate and unconditionally stable

Implicit method is first order accurate and is unconditionally stable

Explicit Method is first order accurate and is stable only for $\lambda \leq \frac{1}{2}$.