

LAB ASSIGNMENT - 4

Name: Aman Kumar

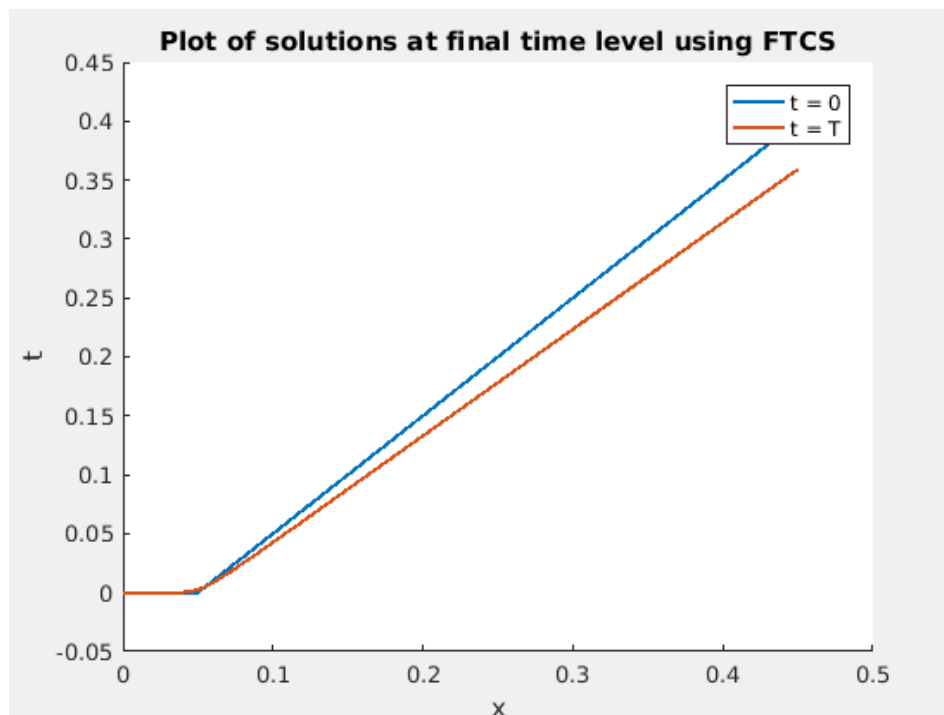
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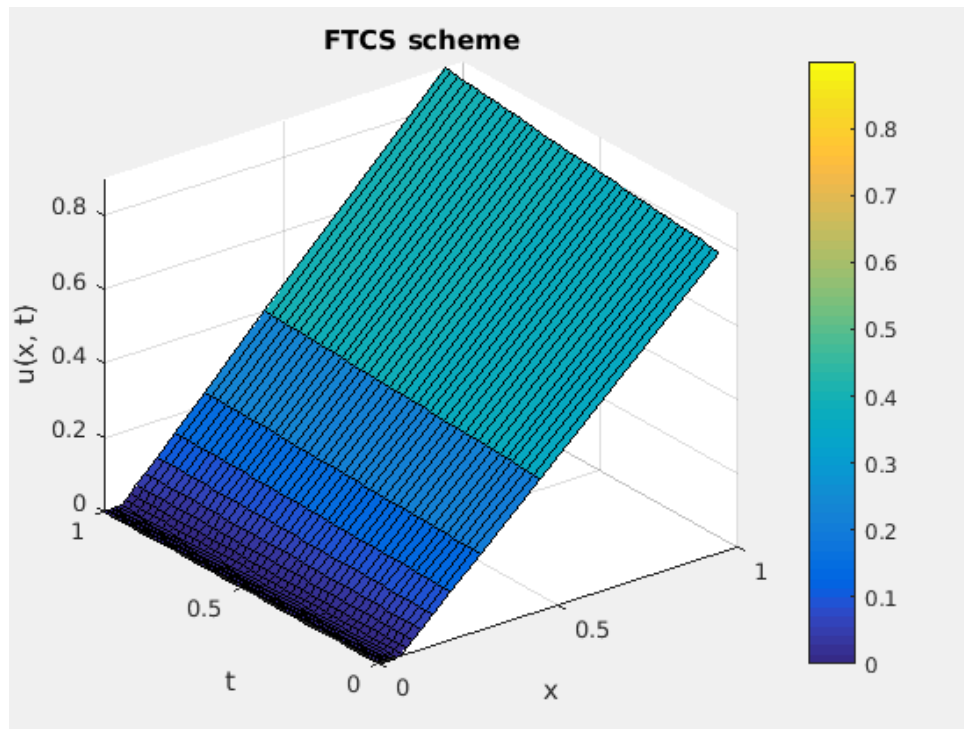
Question 1.

The numerical solutions plot at the final time level and the surface plots for the solution of the Black Scholes PDE for European Call using FTCS, BTCS, Crank-Nicolson schemes are:

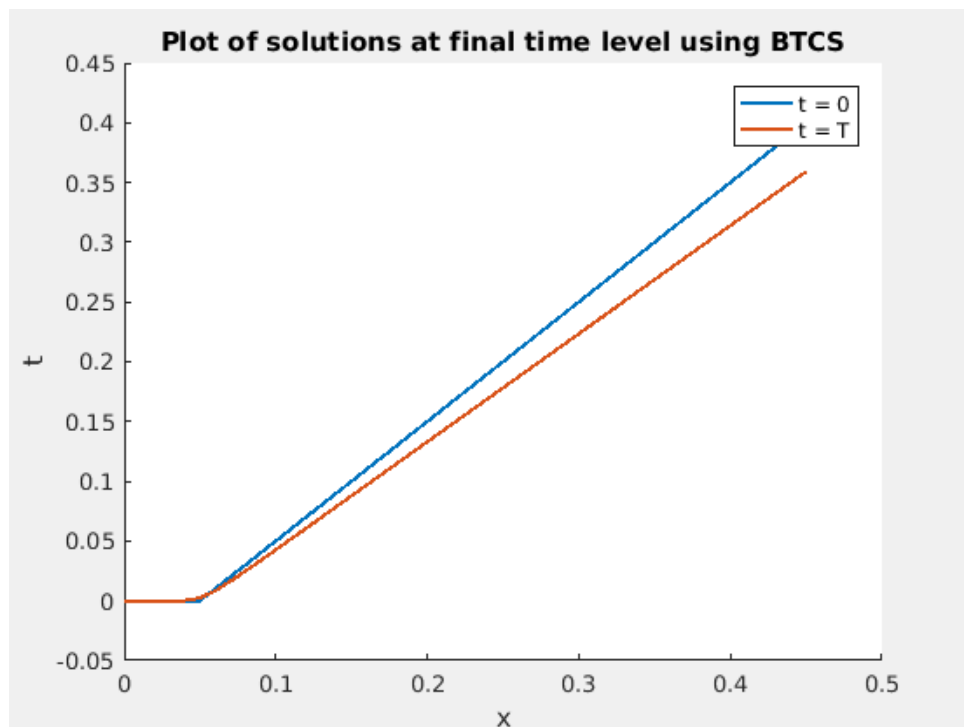
For, $dx = 0.05$, $dt = dx / 2$, $q = 0.05$:-

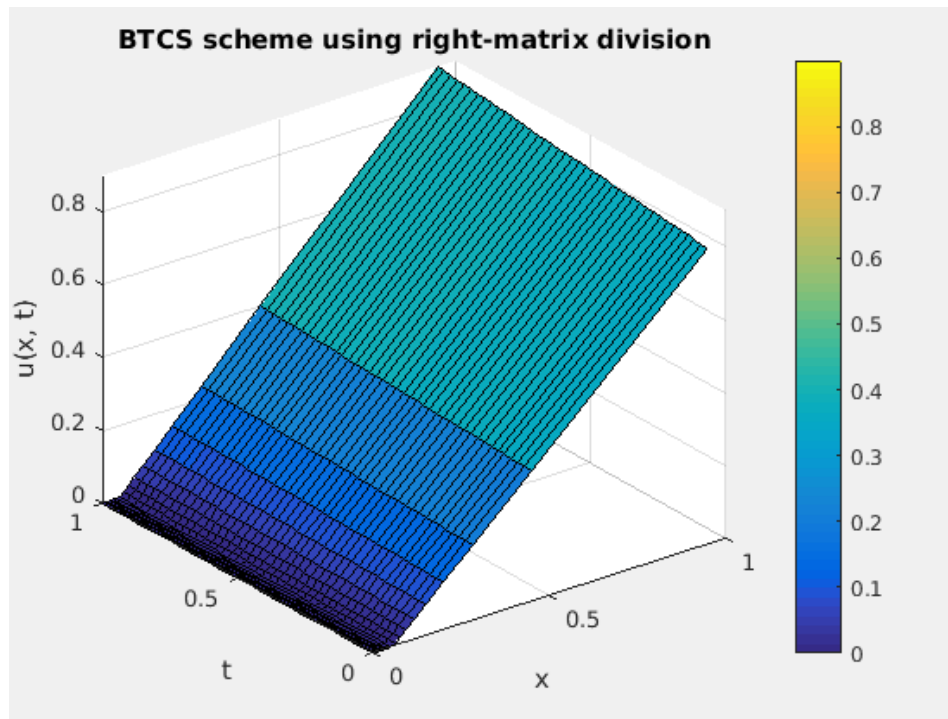
1. FTCS:



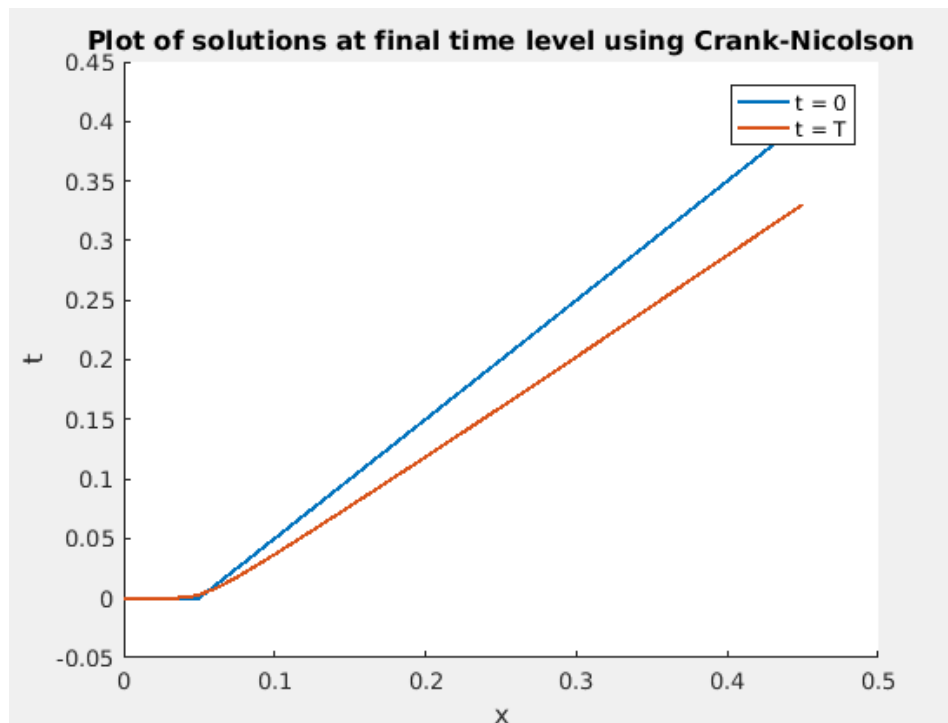


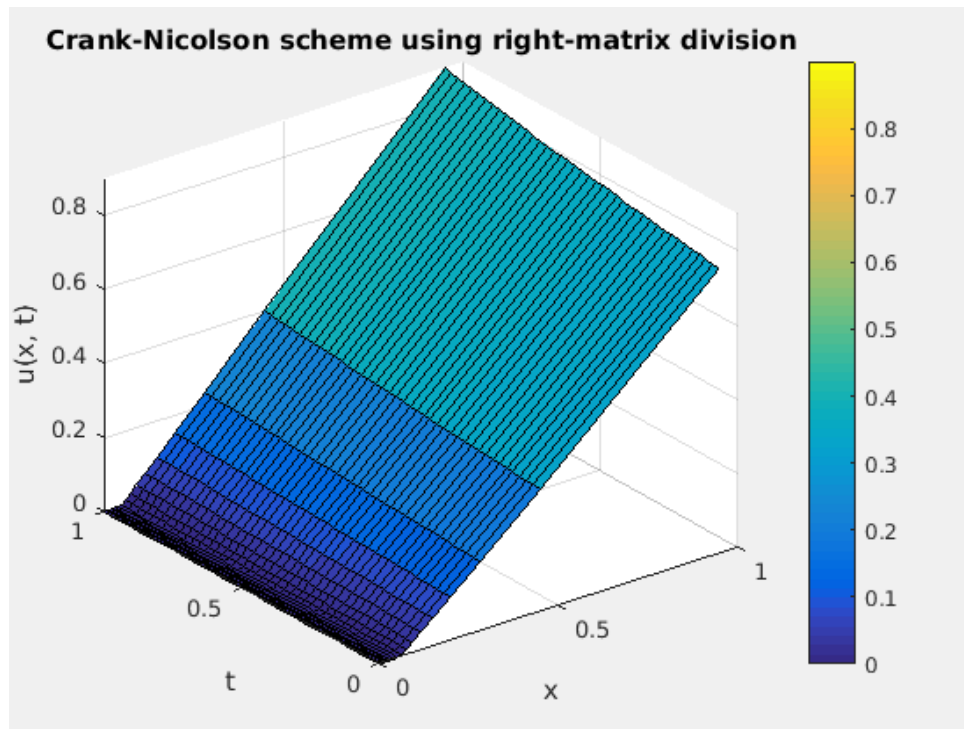
2. BTCS:





3. Crank Nicolson:



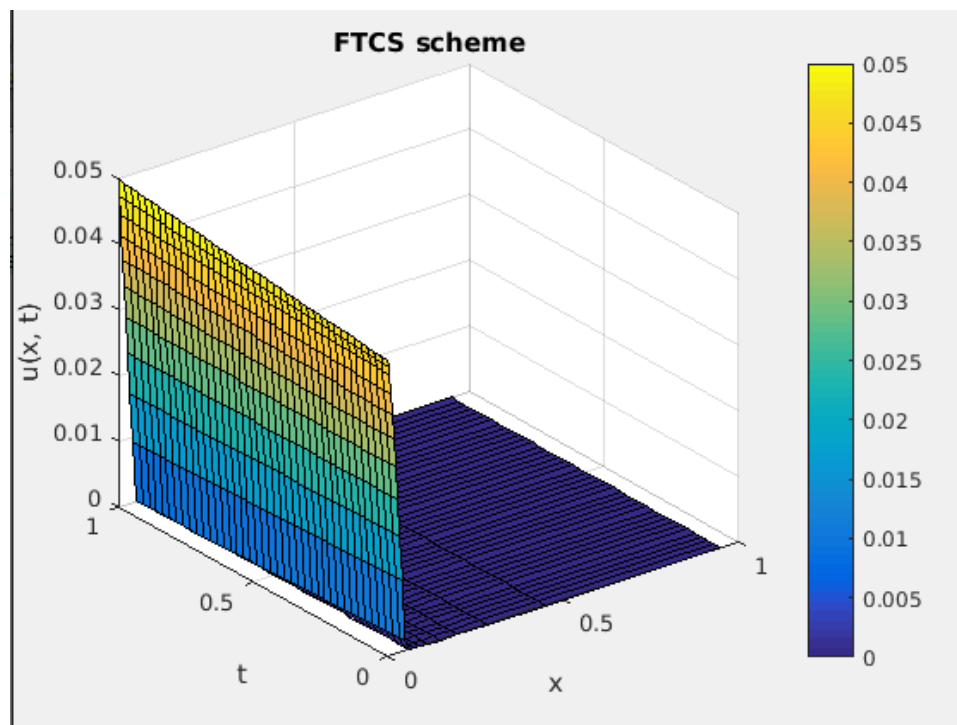
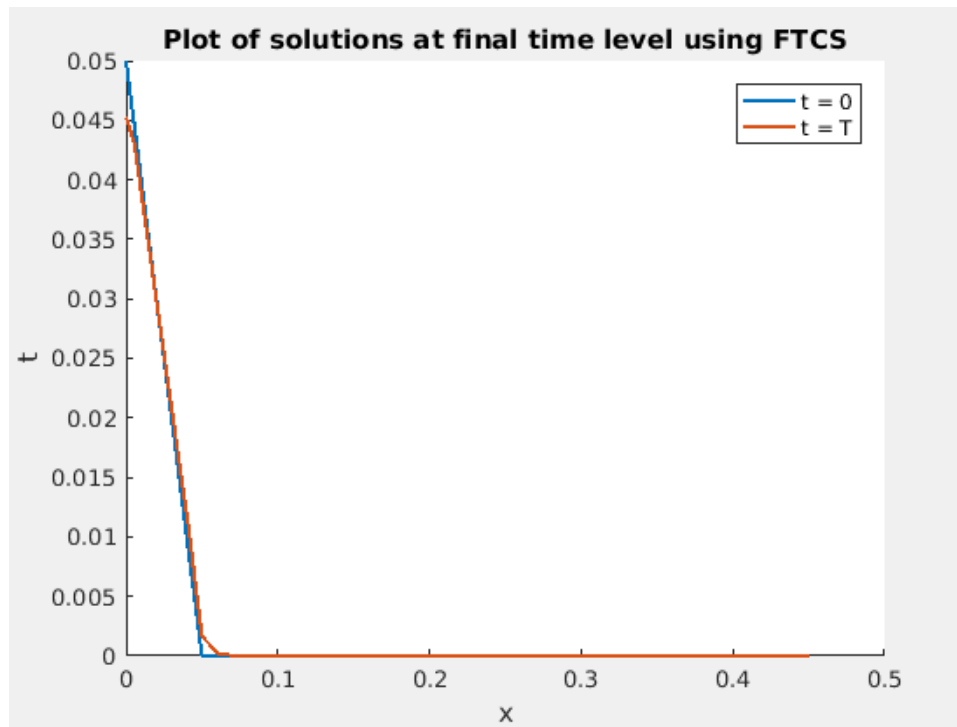


Question 2.

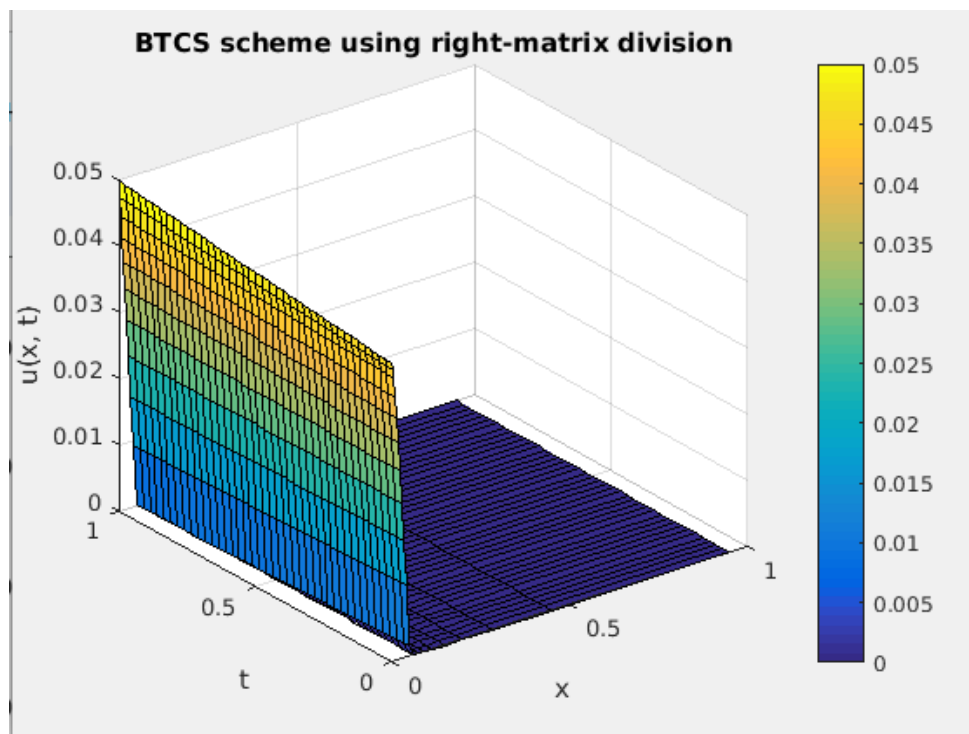
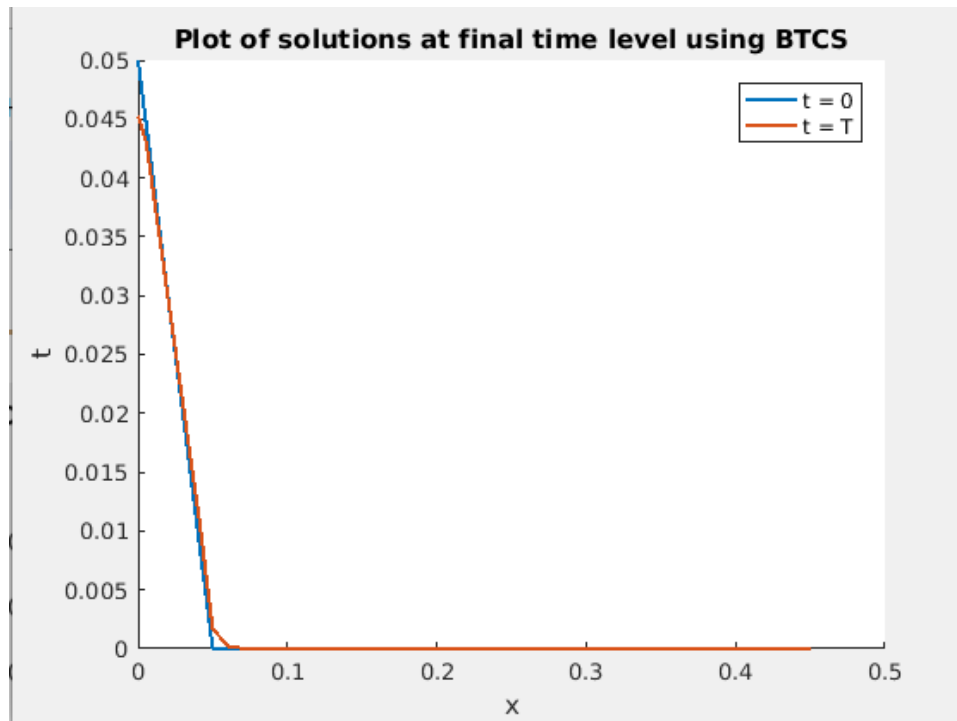
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For, $dx = 0.05$, $dt = dx / 2$, $q = 0.05$:-

1. FTCS:



2. BTCS:



3. Crank Nicolson:

