Consider the conservation law

in 0<x<L, 0<t<T (9.1)

with

(9.2)

Task. Solve the conservation law (9.1), (9.2) by the Lax-Friedrichs method, which utilizes the FTCS (forward in time, centered in space) scheme with numerical dissipation term of , for L =10 and T = (1.25, 2.5, 5) . Draw the graphs.

The following stability condition must be satisfied:

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