18.311 — MIT (Spring 2013)

Rodolfo R. Rosales (MIT, Math. Dept., 2-337, Cambridge, MA 02139).

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Problem Set # 07. Due: Mon. May 6.
Turn it in before 3:00 PM, in the box provided in Room 2-285.

IMPORTANT: The Regular and the Special Problems must be **stapled in TWO
SEPARATE packages, each with your **FULL NAME** clearly spelled.

1   Regular Problems.

From the file linked under *vNSA von Neumann Stability Analysis Problems* in the PROBLEMS and
PROBLEM SETS section of the course WEB page, do the following:

Problem vNSA04a. Forward differences for $u_t - u_x = 0$.

Problem vNSA04b. Backward differences for $u_t - u_x = 0$.

Problem vNSA07a. Forward Euler for $u_t = u_{xx}$.

2   Special Problems.

From the file linked under *vNSA von Neumann Stability Analysis Problems* in the PROBLEMS and
PROBLEM SETS section of the course WEB page, do the following:

Problem vNSA04c. Centered differences for $u_t - u_x = 0$.

Problem vNSA04d. Lax-Friedrichs for $u_t - u_x = 0$.

THE END.