

Homework 3

Compute the following two problems with the 2nd order MUSCL scheme.

(a) Problem 3 in H.W. 2.

$$(b) \begin{cases} u_t + \left(\frac{1}{2}u^2\right)_x = 0, & t > 0, x \in \mathbb{R} \\ u(x, 0) = 1 + \sin(2\pi x), & x \in \mathbb{R}. \end{cases}$$

The final time is $T = 1$.