HW7

May 10, 2007

1. Exercise 15.2 in the book
2. Show that E schemes:

$$U_j^{n+1} = U_j^n - \frac{k}{h}[F(U_j^n, U_{j+1}^n) - F(U_{j-1}^n, U_j^n)]$$

$$sign(U_{j+1}^n - U_j^n)\left(F(U_j^n, U_{j+1}^n) - f(u^n)\right) \leq 0 \quad \text{for all } u^n \text{ between } U_j^n \text{ and } U_{j+1}^n$$

are TVD.

3. Start to prepare your final project