Numerical Partial Differential Equations II
Discontinuous Galerkin Methods
Homework 2
(Due: May 16, 2005)

1. Use the sample code for transport equation to study:

   - the stability property of the method (CFL number).

   - the convergence property of the method (p and h).

   - the effect of the numerical flux. Change the flux to Lax-Friedrichs numerical flux. Which one is better (accuracy)?

2. Use the sample code for wave equation to study:

   - the stability property of the method (CFL number).

   - the convergence property of the method (p and h).

   - the effect of the numerical flux. Choose several different parameters for the generalized up-winding numerical flux and compared with the Lax-Friedrichs numerical flux. Which one is better (accuracy)?