AME 538
Homework 13
Due: Monday, 30 September 2002, in class

1. For a steady, incompressible, inviscid flow with $\rho = 1000\ kg/m^3$, $v_1 = (2\ s^{-1})x_2$, $v_2 = (2\ s^{-1})x_1$, $P(0,0) = 200\ kPa$, give a computer generated plot of the streamlines, velocity vector field, acceleration vector field, and isobars. Put everything on a single plot. Show how you obtain each field. Show how the pressure field can be obtained from a Bernoulli's equation as well as a direct integration of the linear momenta equations.