Math 270A: HW3, Due Friday December 13.

1. Implement the plasticity discussed in the class to complete the snow constitutive model. Use $\xi = 10$, $\theta_c = .0275$ and $\theta_c = .0075$. Also, you will have to set the variable CFL to .1. This should be done in the constructor for the MPM_DRIVER class. It currently defaults to .5 and unfortunately because we are doing explicit time stepping the hardening effect in the plasticity model will require that it is smaller (leading to smaller time steps and longer run times). You can compare against frames 0, 26, 161 and 330 again (shown below). Note that I changed the rendering to be black and white now so that it looks a little more snow like.

2. Be creative and set up a new sim that creates some sort of interesting snow scene. For example, build a snowman and drop it on the ground.

![Image of snow simulations]

Figure 1: The code should give these exact results (at frames 0, 26, 161 and 330 respectively) once the plasticity related code is implemented.