Part 1:

I would like to do weather effects, specifically snow.

Example:

I would use a Particle system that would emit in a line from the top of the screen. I would either create a snowflake texture or use gaussian blur to achieve a similar effect. I would apply downwards velocity to the particles. I would also have the emitter follow the player but simulate the particles in world space so that they would not move with the camera. I would have the particles lose alpha over time to fade out, or possible fade them out on collision. Finally, I would incorporate noise (through the shader or the noise module) to have the position sway back and forth to make the snowflakes appear to be falling softly. Wind can be added by Particle force fields, and intensity can be controlled by modifying the velocity and emission of time. I would also add some emission over distance (and maybe some separate emitters to make sure the snow did not appear to go away when the camera (and hence the main particle system) was moving.

Here is a sketch/progress on the effect implemented in the 170 game (Savor Saber) I am creating it for (with a few advancements to have it project properly onto 2D ground).
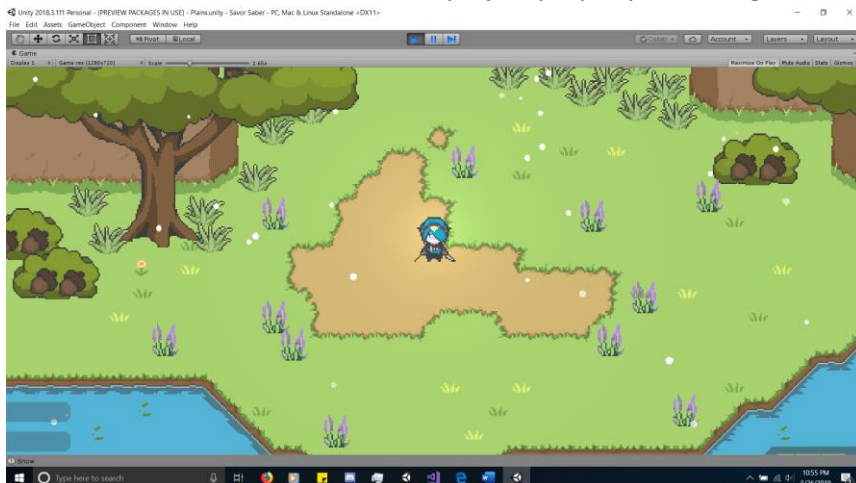
Part 2:

My teammates for the final project will be Gigi Bachtel and Hana Cho. I will also most likely work with Kindon Smith and Philip Stanley.