Dartmouth COSC 89.18: Physical Computing

Assignment 02: Particle Physics

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Part 1

For the first part of the assignment, I implemented the algorithms discussed in the lecture notes to detect particle collisions in the system and update forces on the different bodies, then integrate using $F = ma$ and $v_{i+1} = v_i + a_i$ to update the velocities and positions of the particles.

I also edited `ImplicitGeometry.h` to add a new body supporting collision detection.

Part 2

For the second part, I implemented the $Navier - Stokes$ equations to simulate the flow of an incompressible fluid. The forces modelled are the pressure force, viscocity, and weight. I also implemented surface tension to mimic a more realistic fluid boundary.