

## CSE 291 E00 (SP 2023) Homework 4

### 4.1 Miniproject

**Exercise 4.1 — 20 pts (+5 bonus).** Design a 2D or 3D fluid simulation. Write a document to describe your system and numerical algorithm. Some examples include

- 2D point vortex dynamics.
- Semi-Lagrangian with pressure projection/reflection method. (One can use spectral method to perform the Poisson solve.)
- Particle in cell or FLIP. One can also use spectral method for the pressure solve.
- Lattice Boltzmann method.

Bonus credits will be given to those with excellent exposition or complexity of the system. ■