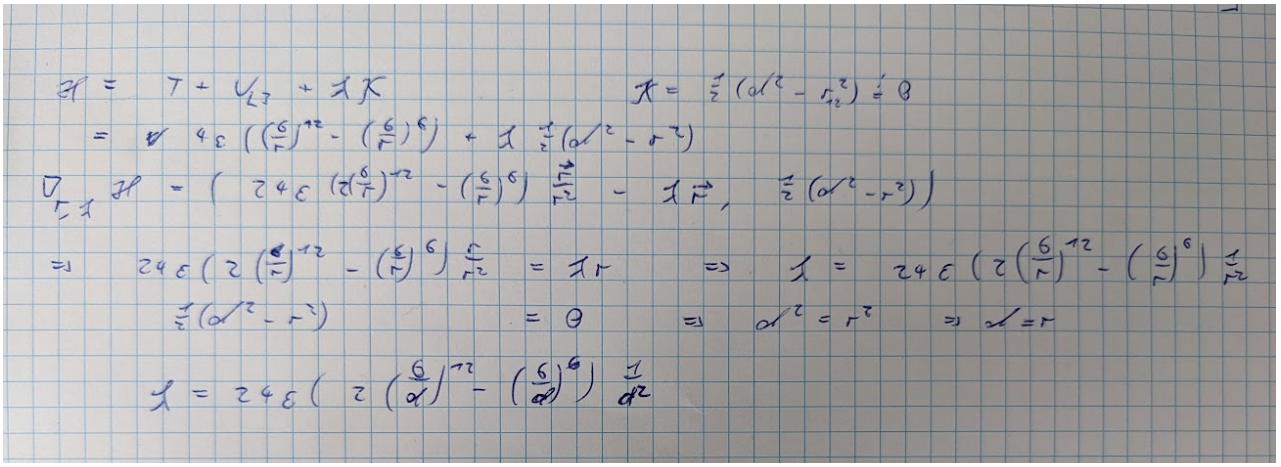
CSP Ex09

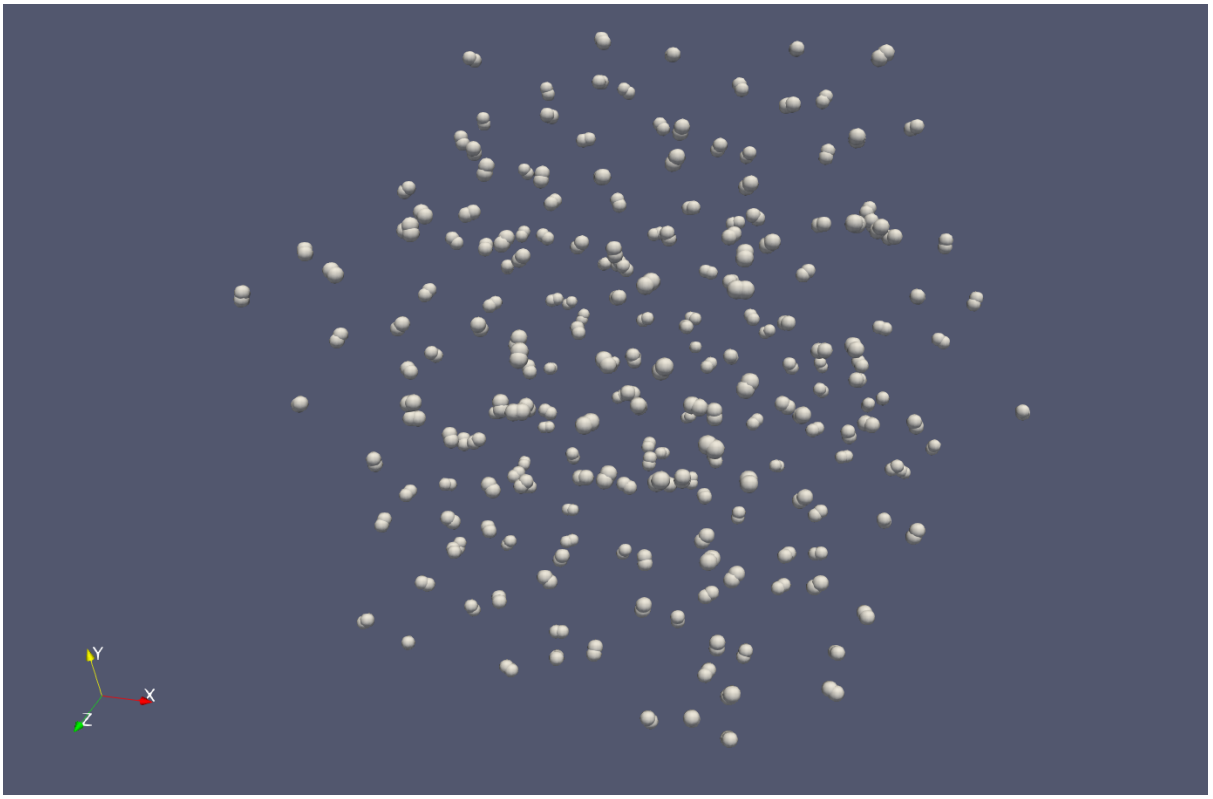
Task1:

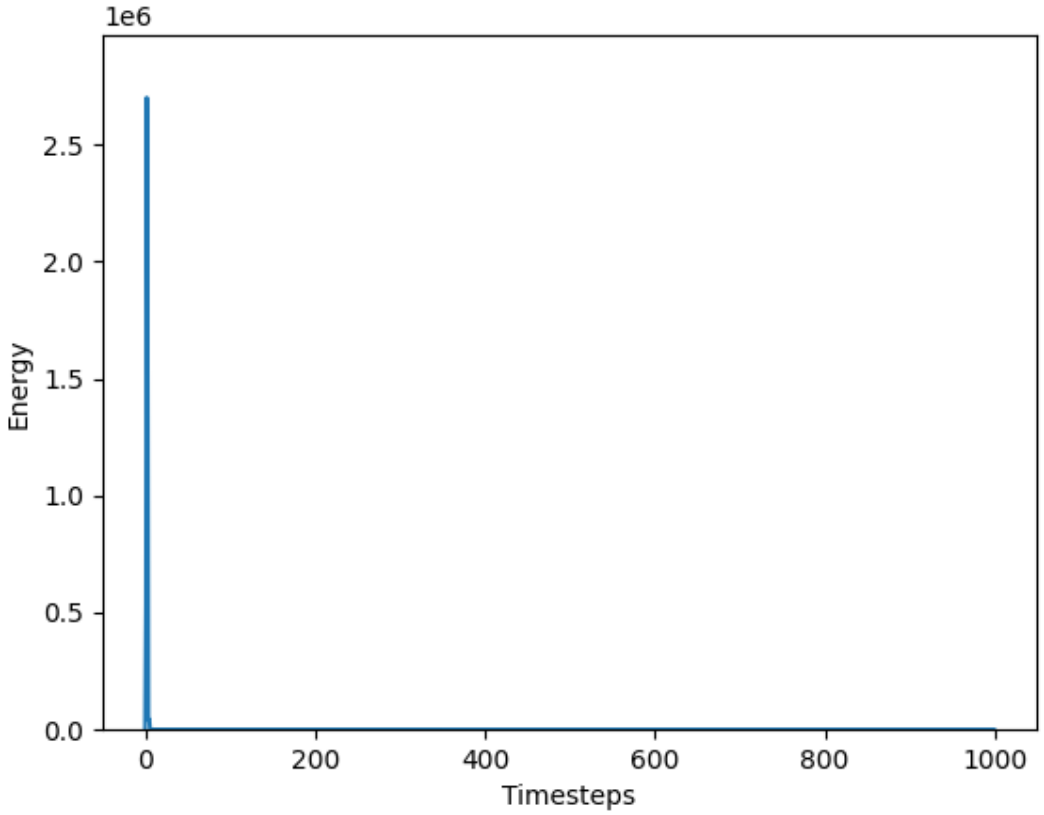


Task2:
Note that I created a video. It looks pretty funny.

Parameters I used:
N = 432
L = 10
rc = 2.5
T = 1000
dt = 10^-3
m = 1.0
epsilon = 1.0
sigma = 1.0
d = epsilon/10

The simulation looks pretty good. It behaves like expected. If you watch the video you see the system will explode at a certain point. It is very unstable. The Energy plot looks this time more normal than last time. It only has a big spike at the beginning due to the high initial velocity. After that, it goes stable downwards. I was very careful this time with the initialization of the particles. I set them in a grid spaced equally (Could use noise to make it a little random but I am ok with it).


Y
X
Z


1e6
2.5
2.0
1.5
1.0
0.5
0.0
Energy
0
200
400
600
800
1000
Timesteps