HW2 Report   
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A graph with red and blue lines

Description automatically generatedA green dotted line on a white background

Description automatically generatedA graph with red and blue lines

Description automatically generatedA graph with red blue and green lines

Description automatically generatedA graph showing different steps

Description automatically generatedA graph of a number of steps

Description automatically generated

- A description of the trends observed across the various experiments

According to these experiment plots, sub-steps could cause more effect to the result than relaxation-steps. For plots 1-3, we keep sub-steps same and comparing relaxation-steps with 1, 10, 100, the results showing there will be larger inconsistent of energy when the sub-steps is 1. For plot 4, we set the relaxation-steps same, and different sub-steps do cause different energy.

What’s more, according to plot 5 there will be large length error when sub steps is 1 and relaxation-steps is 1 either. However, larger relaxation-steps with small sub-steps value can overcome length error problem.

- An analysis of the combination of parameters that yielded the best results.

In my opinion, relaxation-steps 100 and sub-steps 10 will yield the best result. Because there will be noisy if sub-steps too large. Also, larger relaxation-steps will get smaller length error.