CS 294-112 – Homework#5c

Problem 1

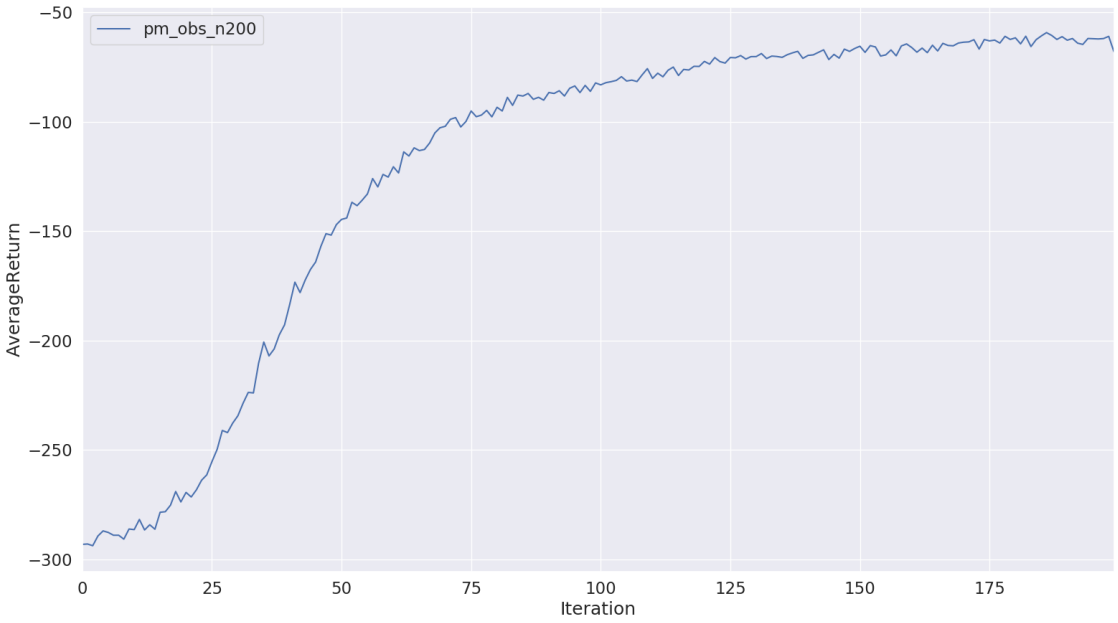

Figure 1. Point mass observeed

Problem 2

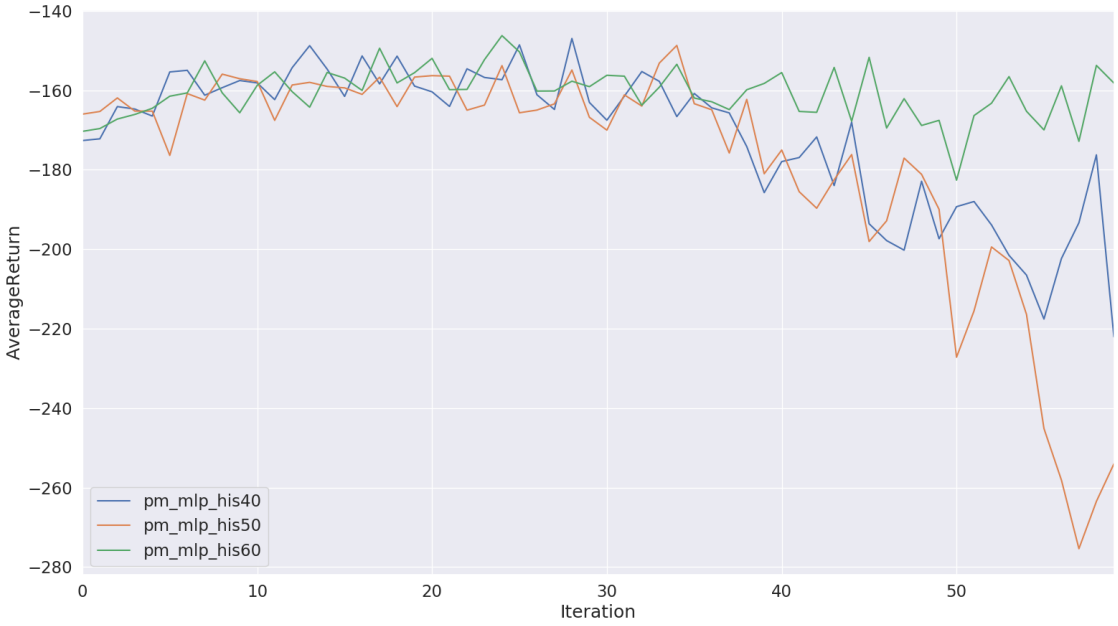

Figure 2a. Point mass. MLP neural network. History: 40, 50, 60.

Figure 2b. Point mass. Recurrent neural network. History: 40, 50, 60.

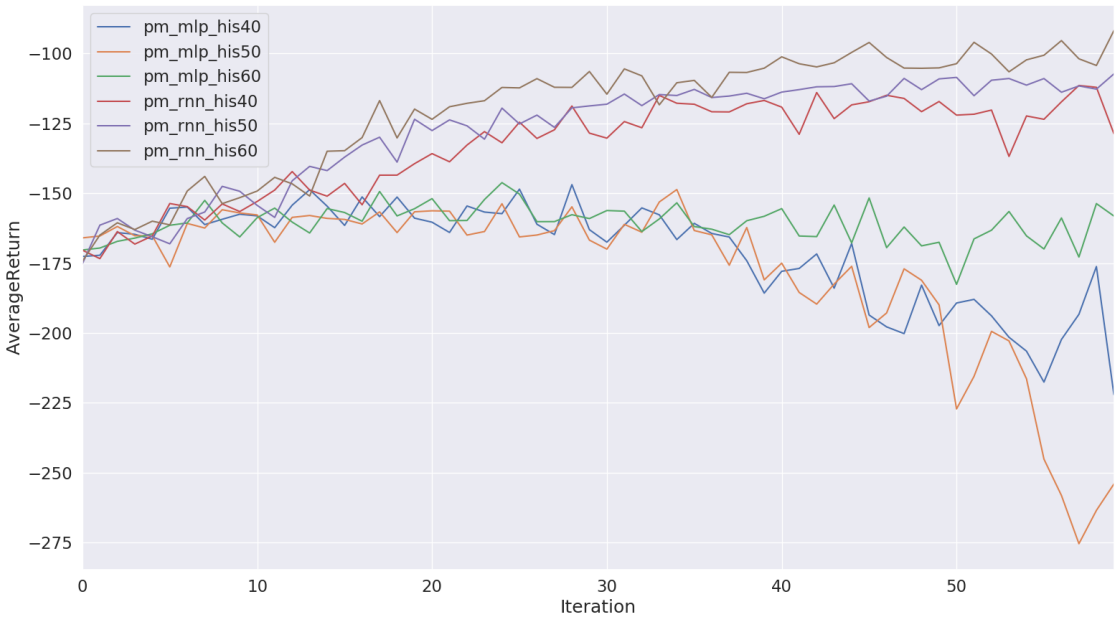

Figure 2c. Point mass. MLP vs RNN. History: 40, 50, 60. RNN performs better than MLP. It seems like the longer the history, the better the RNN model performs. The minimum history length is 40. I did not change any hyper parameter.

Problem 3

Figure 3. Point mass. RNN. History 60. Training-Testing-mixed pm_rnn_his60 vs Training-Testing-separate pm_rnn_testing_granule#_his60 with granularity 1, 2, 5, 6, i.e. single, double, 5-tuple, 10-tuple checker boards. Both perform pretty much the same for granularity 1, 2, 5. For granularity 10, the performs get better.