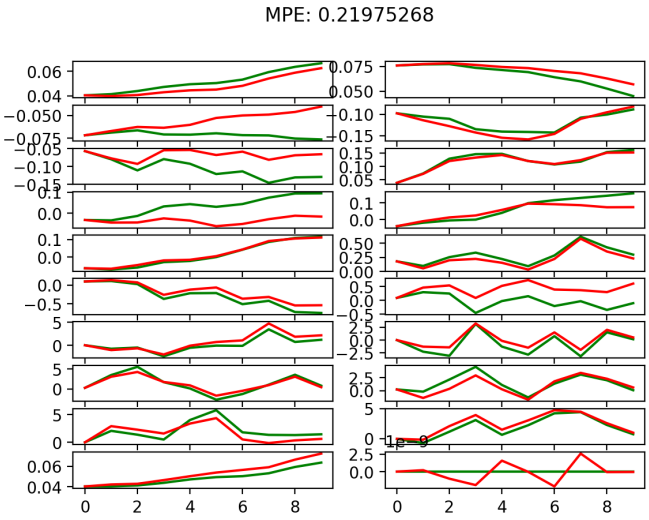
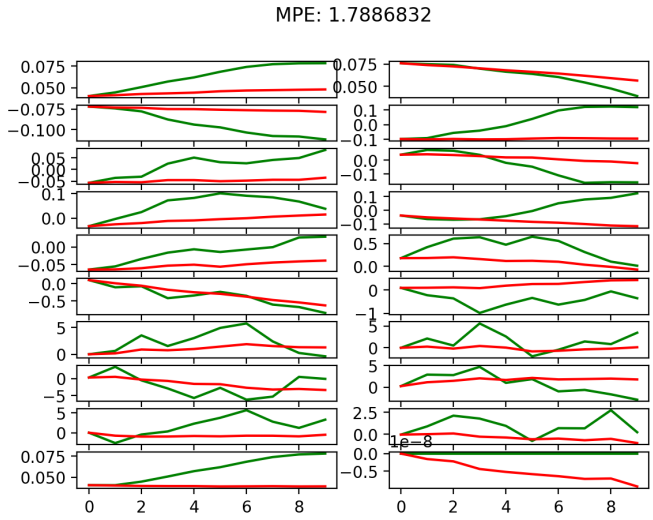
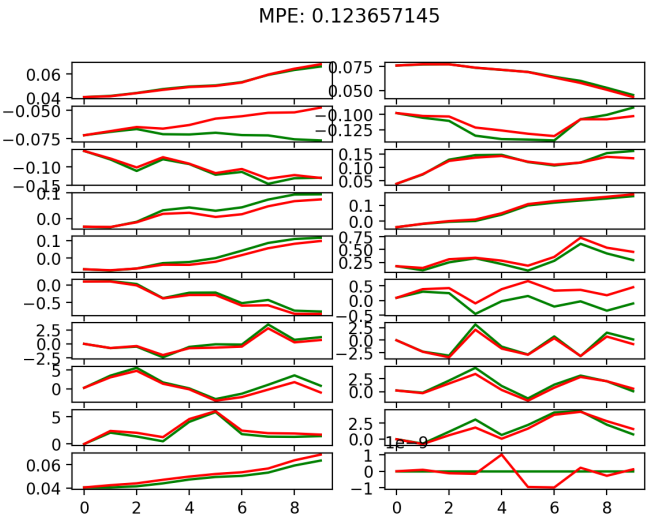
Question 1:



(a) 1x32 Architecture, 500 Train steps



(b) 2x250 Architecture, 5 train steps

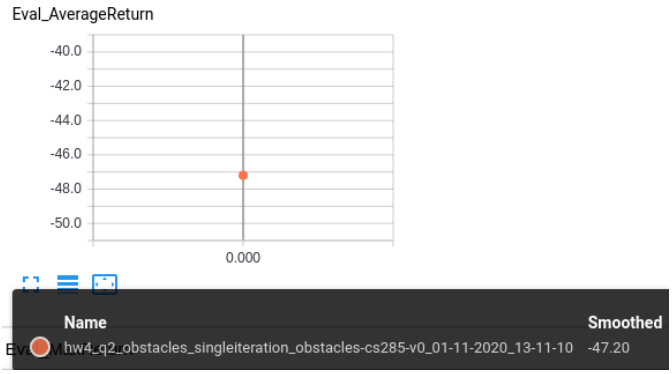


(c) 2x250 Architecture, 500 Train Steps

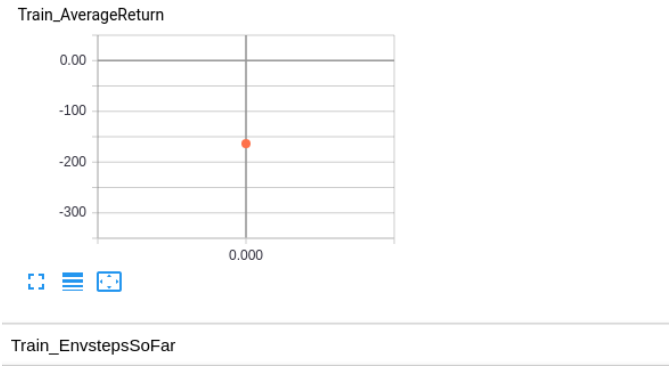
Figure 1: Qualitative Model Predictions

We can see from Fig. 1b that using only 5 training steps is not nearly sufficient time to model the transition dymanics. The second best performing model uses the 1x32 architecture and can be seen in figure 1a. There is some deviation in 1a that is fixed in 1c by using a larger network. This means that 1x32 network is likely not descriptive enough to fully predict the dynamics. Thus the best uses both many training steps and a larger network to learn an excellent approximation of the dynamics.

Question 2:



(a) Eval_AverageReturn



(b) Train_AverageReturn

Figure 2: 1 Iteration of the MPC policy

Question 3:

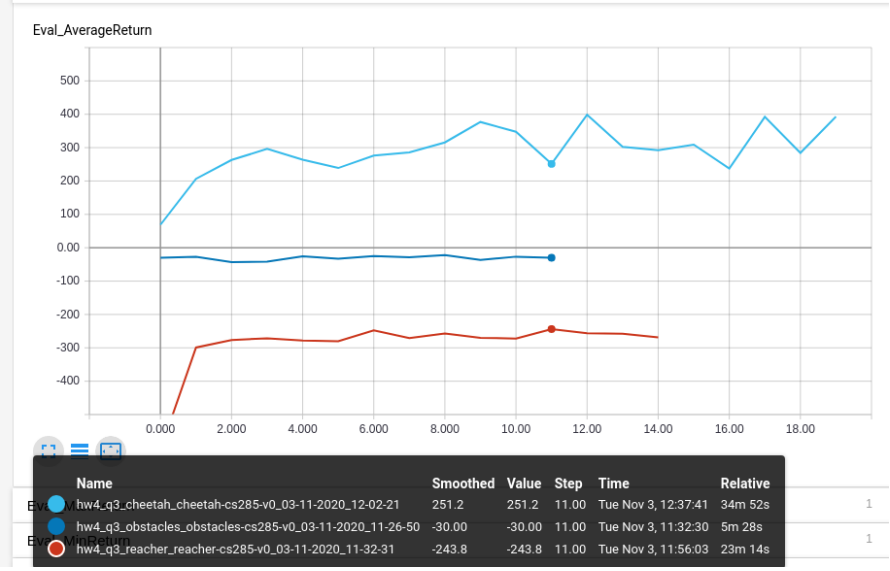
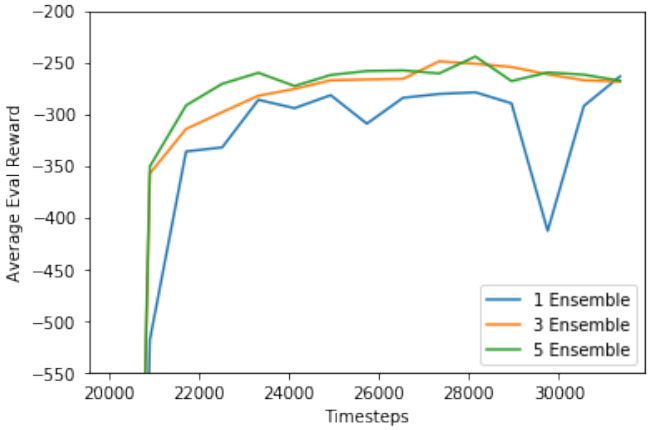
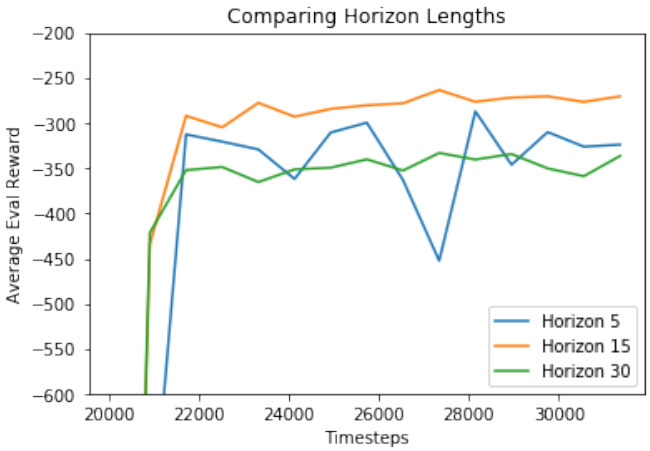


Figure 3

Question 4:



(a) Ensemble Comparison



(b) Horizon Comparison

(c) Sequence comparison

Figure 4: Comparison Of Hyperparameters