

Assignment 1 – Report

Below are the train & test MSE's tables for different epochs and learning rate

learning rate = 0.1		
Epochs	Test MSE	Train MSE
1000	0.08080143	0.05455337
2000	0.08090082	0.05057708
5000	0.08113491	0.04721612

learning rate = 0.01		
Epochs	Test MSE	Train MSE
1000	0.09638162	0.08886044
2000	0.08668195	0.07035318
5000	0.08407687	0.06240771

learning rate = 0.001		
Epochs	Test MSE	Train MSE
1000	0.3240201	0.3103625
2000	0.2068333	0.2159001
5000	0.1457408	0.1479053

We can see how choice of learning rate and number of epochs impact on our results. A greater number of epochs say 2000 and a steady learning rate like 0.01 gives us an optimal result here in our experiment with epochs and learning rate with train mse = 0.07035318 & test mse = 0.08668195.