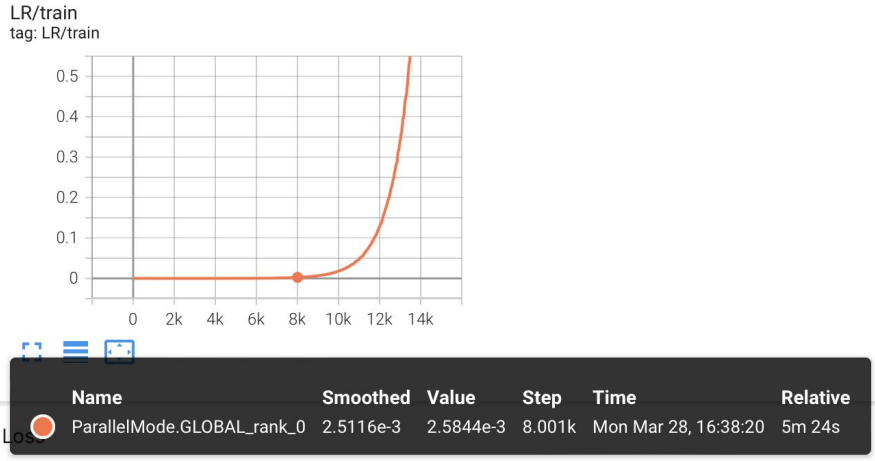
CS5260 Assignment 6

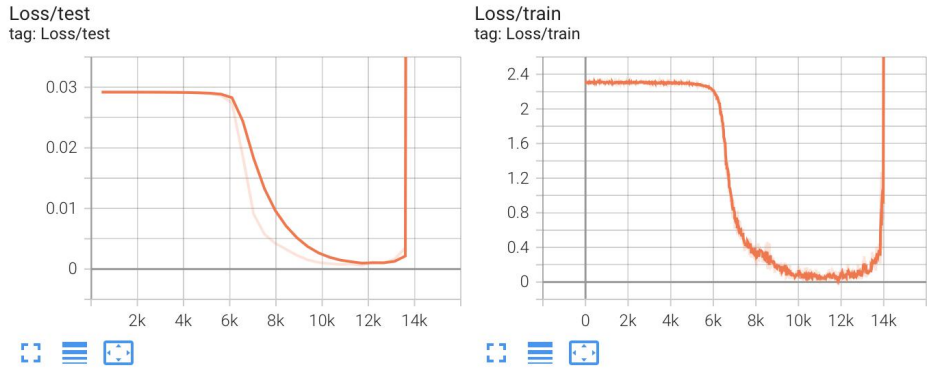
-- Colossalai and LR Range Test

In assignment 6, I use 4 setting to complete the experiment:

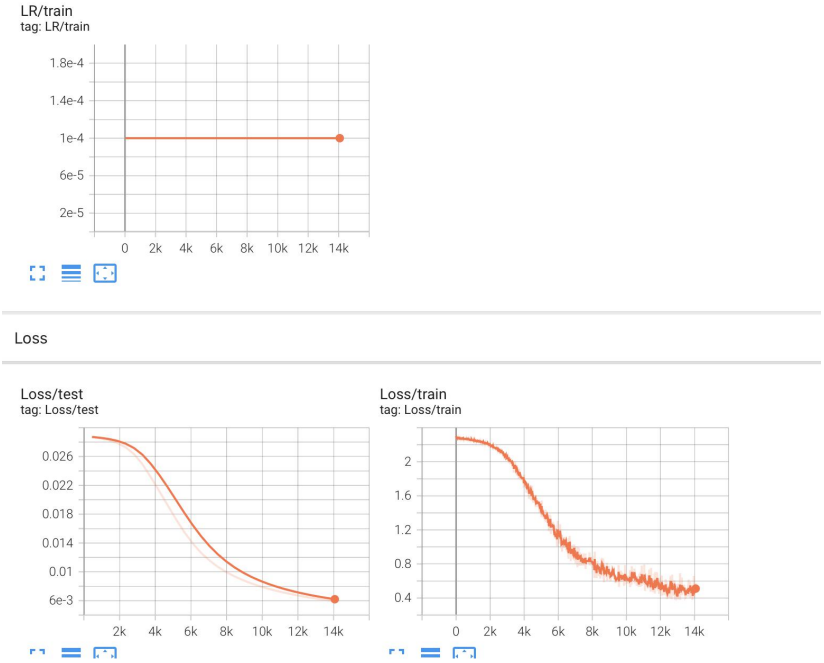
1. SGD optimizer + LambdaLR:

The loss starts to drop at 8k steps, with the learning rate 2.58e-3



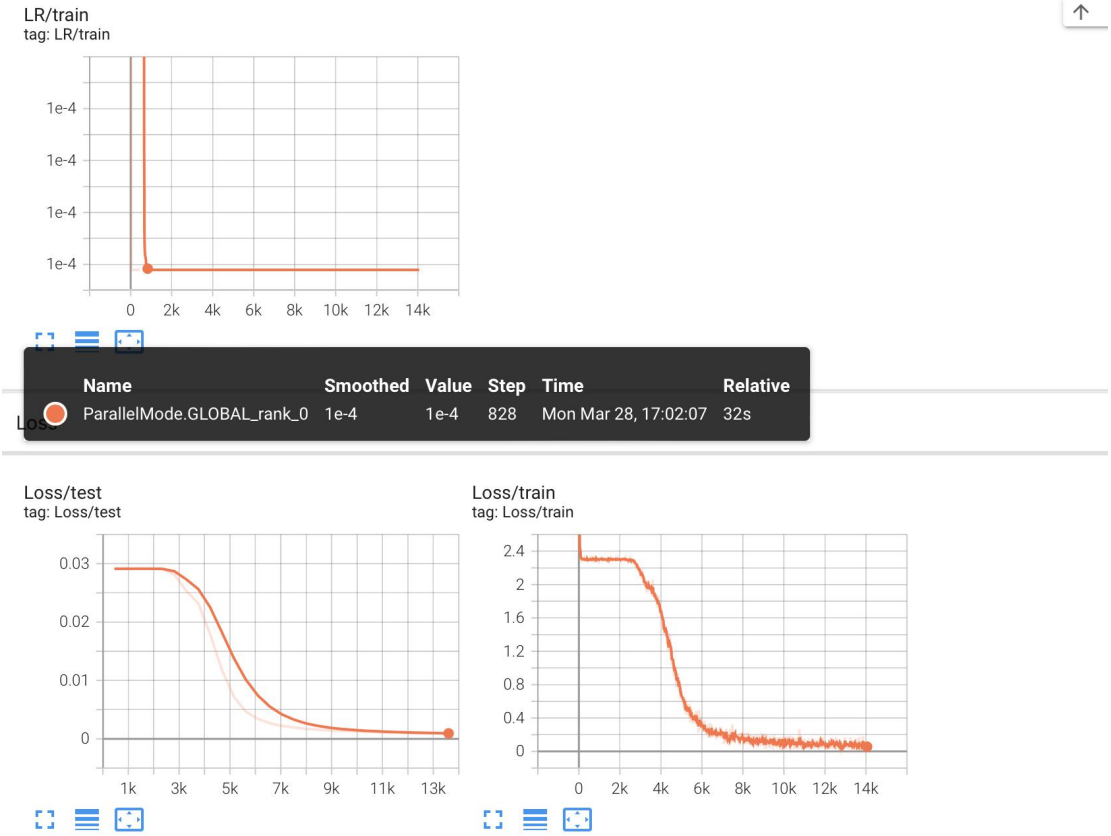


2. SGD optimizer + MultiStepLR:



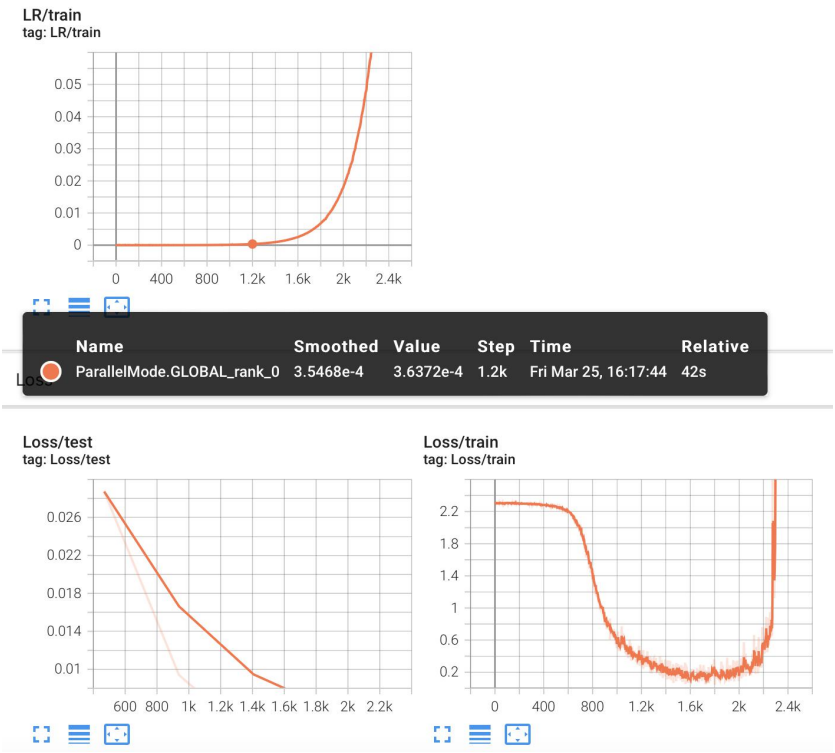
3. Adam optimizer + MultiStepLR:

The loss starts to drop at 0.8k steps, with the learning rate 1e-4. It drops greatly.



4. Adam optimizer + LambdaLR:

The loss starts to drop at 1.2k steps, with the learning rate 3.64e-3



From the above experimental results, it can be seen that compared with SGD optimizer, Adam has a larger gradient and faster convergence speed.
MultiStepLR is better than LambdaLR on MNIST dataset training LeNet5.

Github link: https://github.com/xiaoheng-byte/Colossalai