When the batch_size is 2,

- The parameters for the Convolution 1 that are taken according to the architecture are as follows,

  "in_channel = 1, out_channel = 4, kernel_size = 3, stride = 1, padding = 0".
- The parameters for the Pooling 1 that are taken according to the architecture are as follows,

  "kernel_size = 2, stride = 2".
- The parameters for the Convolution 2 that are taken according to the architecture are as follows,

  "in_channels = 4, out_channels = 2, kernel_size = 3, stride = 3, padding = 0".
- The parameters for the Pooling 2 that are taken according to the architecture are as follows,

  "kernel_size = 4, stride = 4".

➢ The Model Evaluation for the training data according to the parameters are as follows,

"num_epochs = 5".

Epoch 1 accuracy: 0.1103 val_accuracy: 0.1141

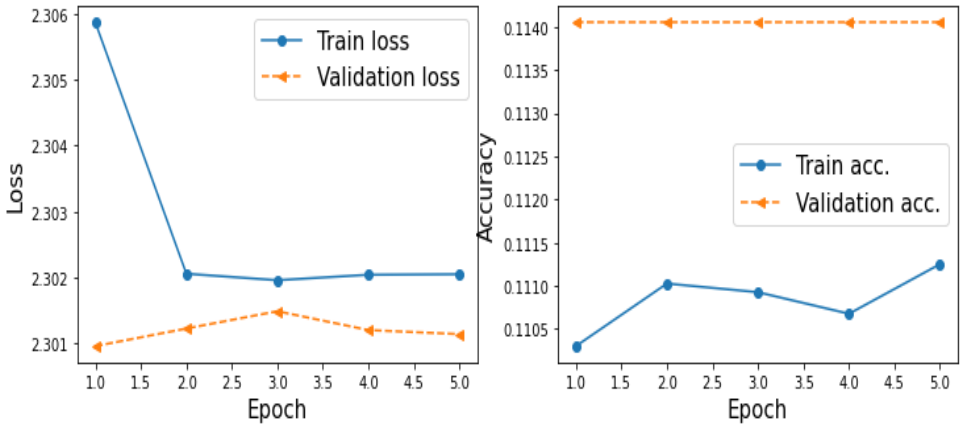
Epoch 2 accuracy: 0.1110 val_accuracy: 0.1141

Epoch 3 accuracy: 0.1109 val_accuracy: 0.1141

Epoch 4 accuracy: 0.1107 val_accuracy: 0.1141

Epoch 5 accuracy: 0.1112 val_accuracy: 0.1141

➢ The Accuracy and the Loss Plots for the Training Data are as follows,



Loss and Accuracy Plots for the Training Data

➢ Model Evaluation for the testing data according to the architecture are as follows,

Test accuracy: 0.1135

After the change in the parameters,

When the batch_size is 64,

- The parameters for the Convolution 1 that are taken are as follows,
  "in_channel = 1, out_channel = 32, kernel_size = 5, stride = 1, padding = 2".
- The parameters for the Pooling 1 that are taken are as follows,

  "kernel_size = 2".

- The parameters for the Convolution 2 that are taken are as follows,
  "in_channels = 32, out_channels = 64, kernel_size = 5, padding = 2".
- The parameters for the Pooling 2 that are taken are as follows,

  "kernel_size = 2".

➢ The Model Evaluation for the training data according to the parameters are as follows,

"num_epochs = 5".

Epoch 1 accuracy: 0.9402 val_accuracy: 0.9808

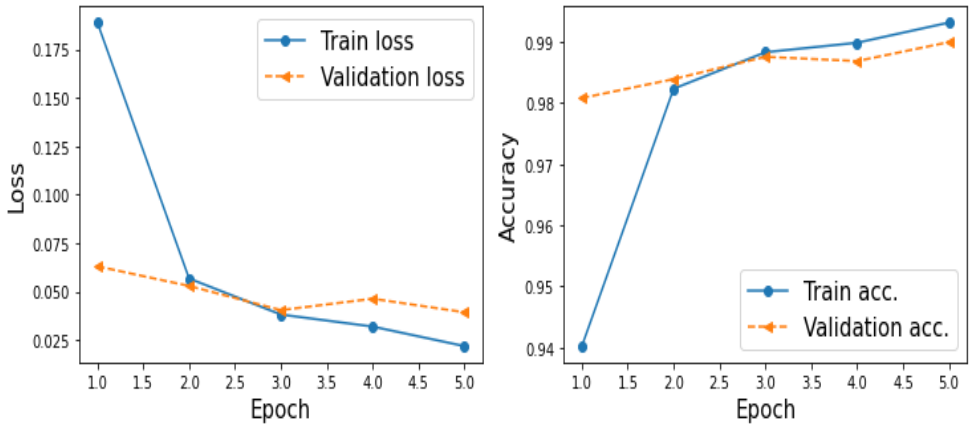
Epoch 2 accuracy: 0.9823 val_accuracy: 0.9839

Epoch 3 accuracy: 0.9883 val_accuracy: 0.9876

Epoch 4 accuracy: 0.9898 val_accuracy: 0.9869

Epoch 5 accuracy: 0.9931 val_accuracy: 0.9900

➢ The Accuracy and the Loss Plots for the Training Data are as follows,



Loss and Accuracy Plots for the Training Data

➢ Model Evaluation for the testing data are as follows,

Test accuracy: 0.9913