**DEEP LEARNING**

## LAB ASSIGNMNET – 3

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**CLASS ID: 02**

**INTRODUCTION:**

In this assignment the main focus to implement text classification with CNN model, RNN model and LSTM model with new data set and observe to analyze the results.

**Objective:**

The key objective here is to implement text classification with CNN model, RNN model and LSTM model and plotting the graph in tensor board to observe the results of changed parameters and analyze the accuracy and loss based on the iterations.

**METHODS:**

Here I have implement CNN model by considering the data with different classes. Firstly created a class textcnn and declared placeholders for input, output and drop out so that it can be tracked for 12 regularization loss. Created convolutional and max pool layer for an each filter size, in this I applied non-linearity and combined all pool features ad finalized all the predictions to calculate loss accuracy for taken dataset.

For the training data I declared all the parameters such as model, training and misc parameters and loaded the data to build vocabulary and after shuffling data is splitted into training and testing, plotted summaries by declaring all the variables for accuracy and loss.

# WORKFLOW

* Installed required packages
* Applied CNN
* Applied RNN
* Applied LSTM
* Initialized variables
* Divided into training and testing
* Used parameters for prediction
* Calculated loss
* Calculated accuracy

**DATASETS:**

Data set is used to implement the CNN, RNN and LSTM MODELS. This dataset has different classes in it to predict the accuracy and loss

**PARAMETERS:**

Learning rate

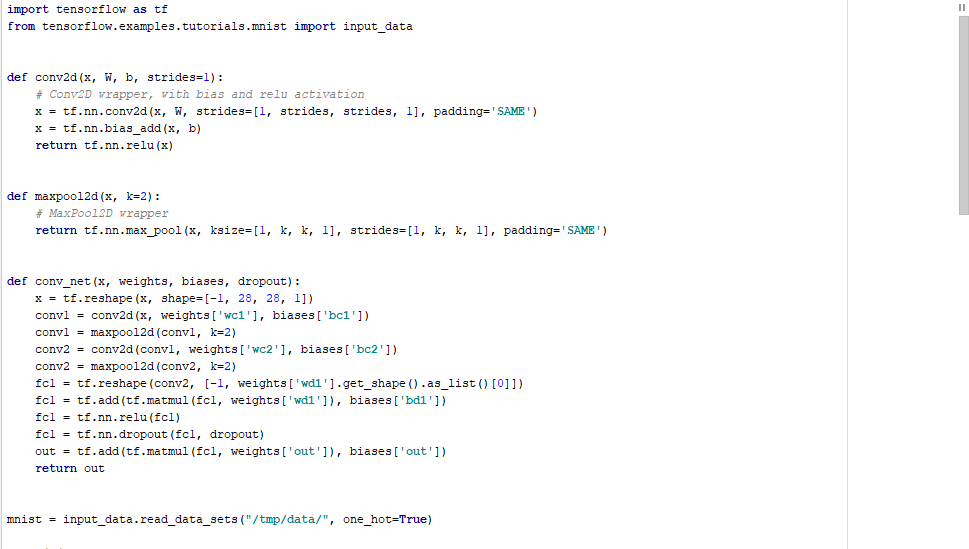
Batch size

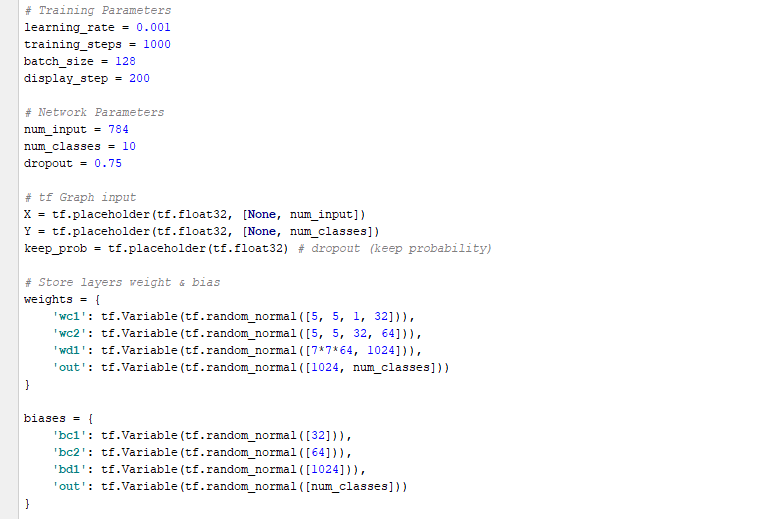
No. of steps

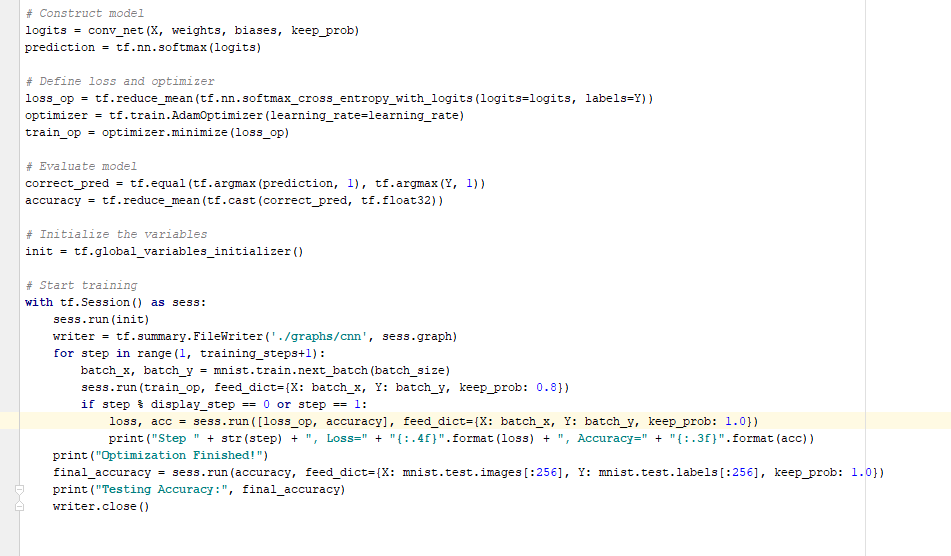
**EVALUATION:**

**Source code:**

**CNN:**



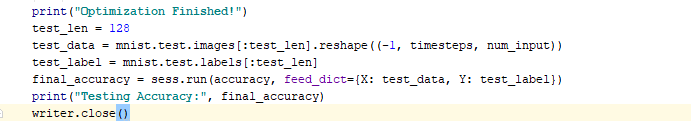




RNN:

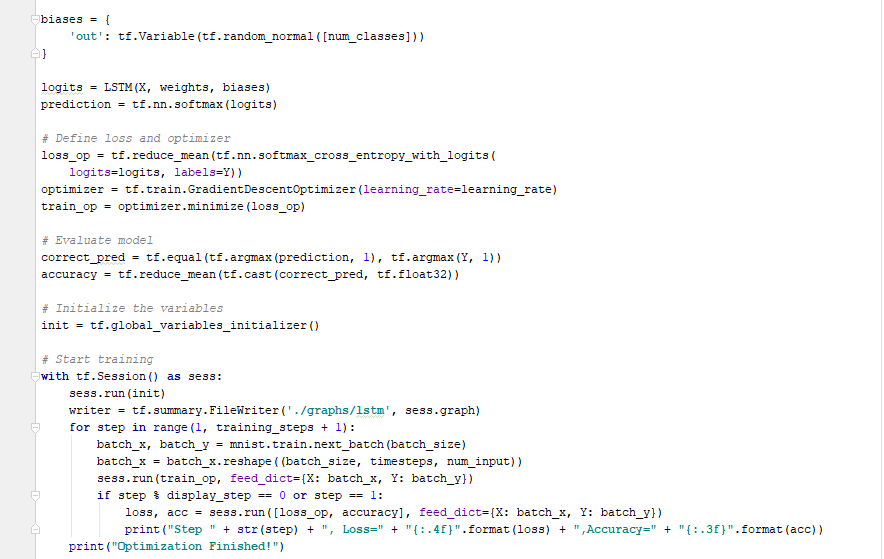


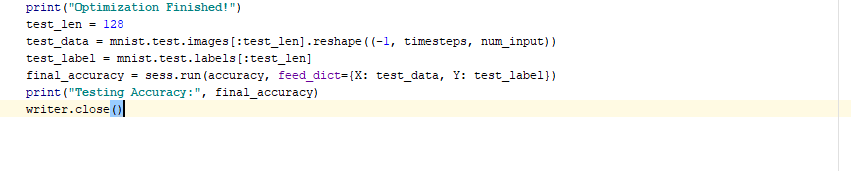




LSTM:

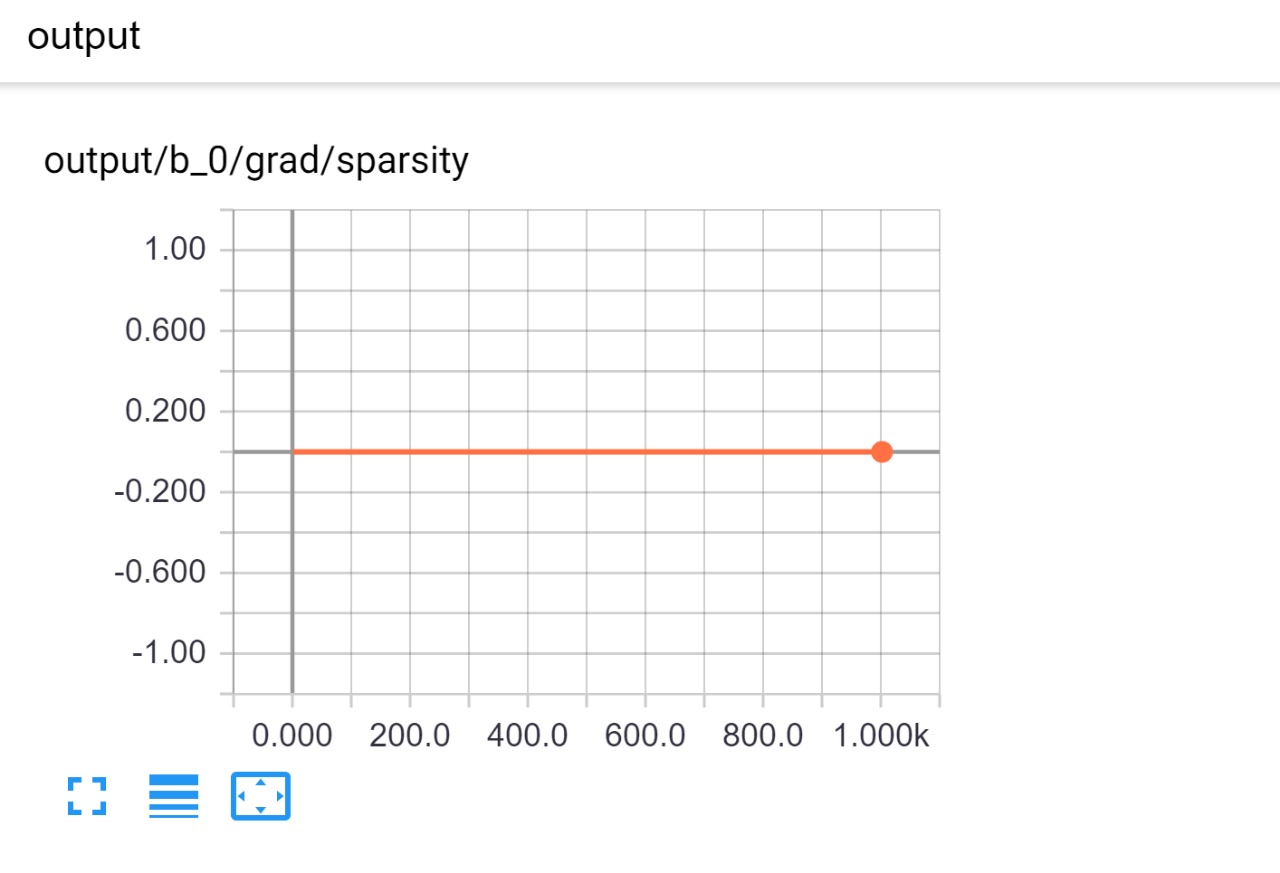


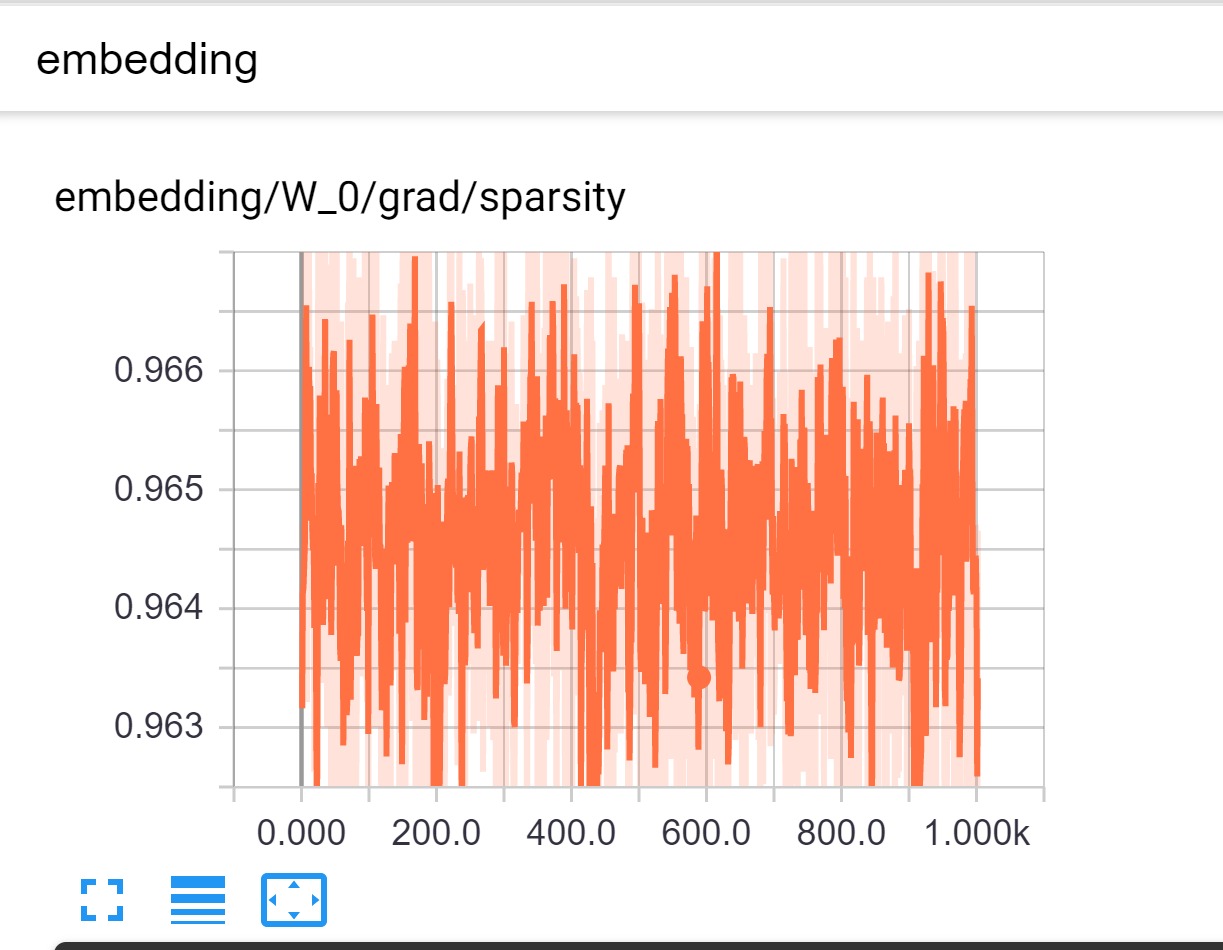


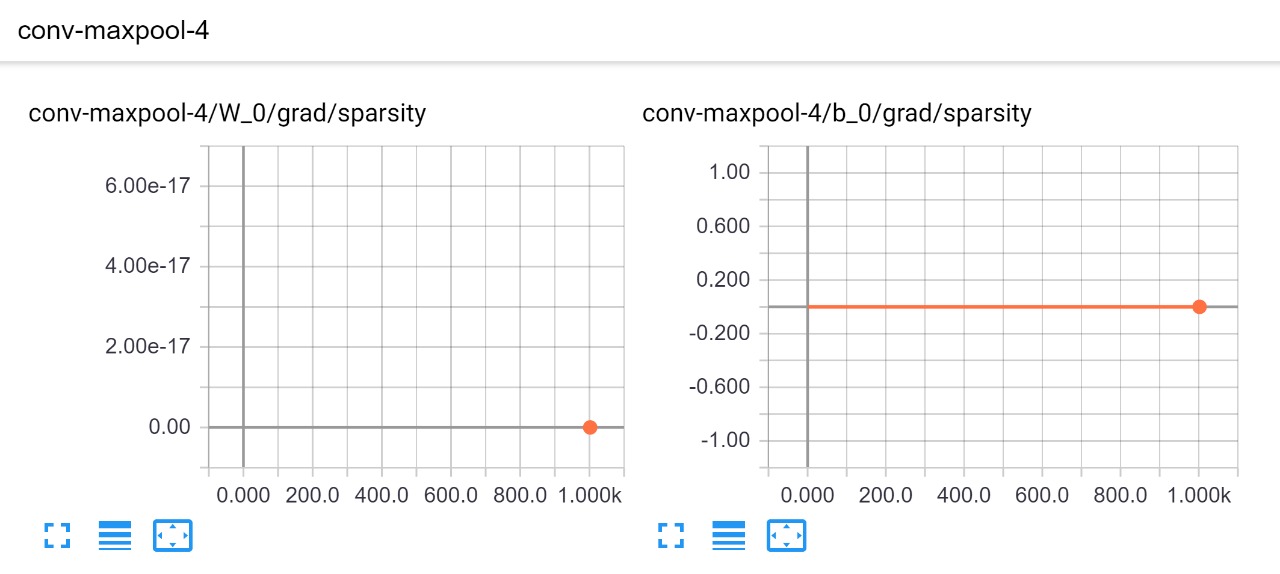


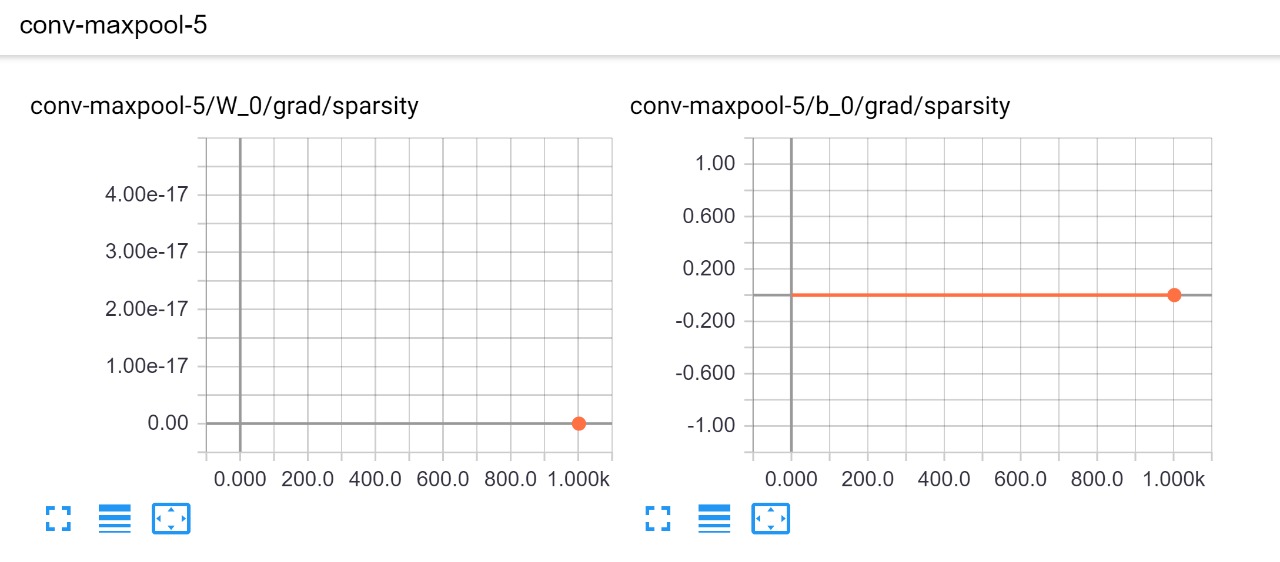
**OUTPUT:**

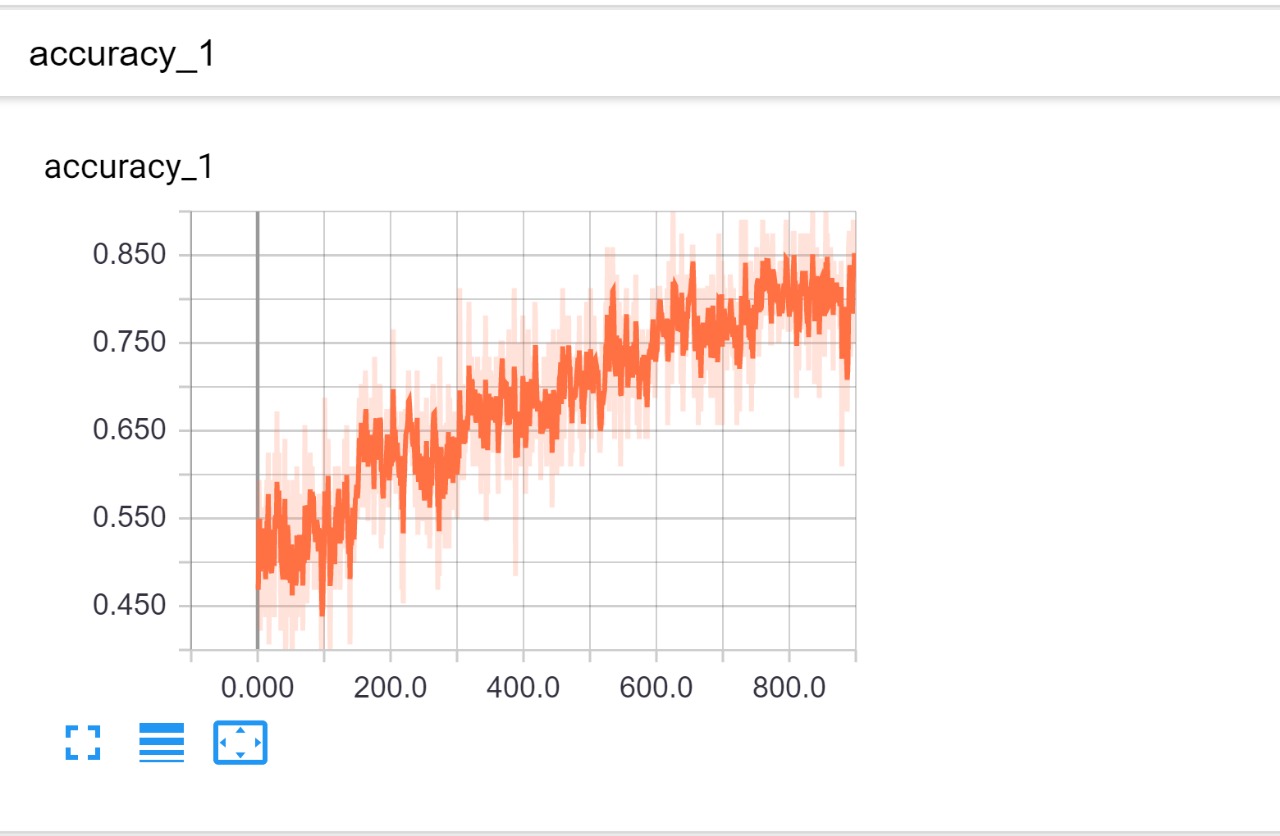
**GRAPHS:**

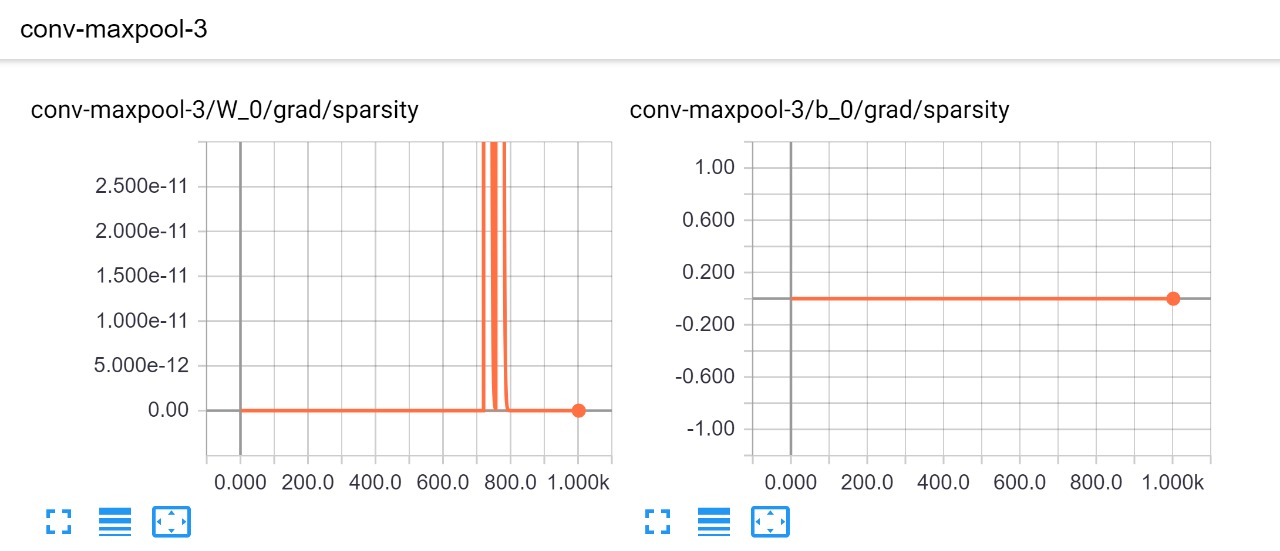
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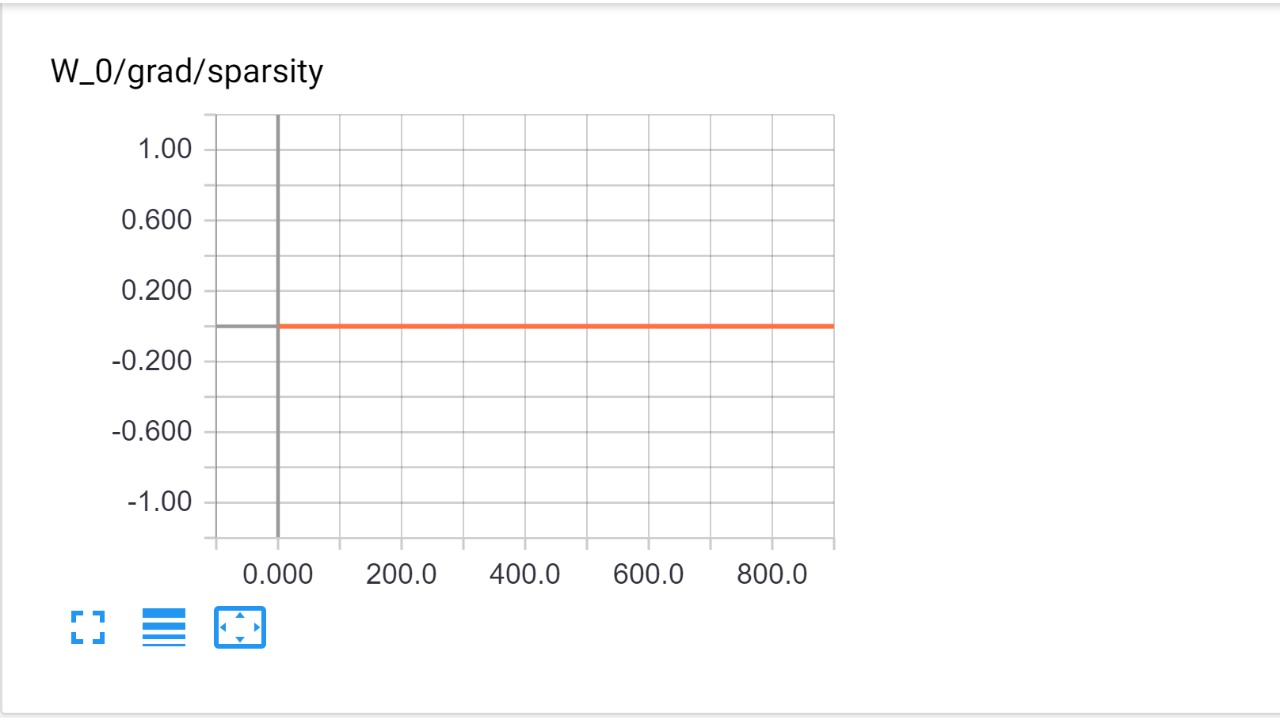
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**CONCLUSION:**

Here in this model there are many iterations so in each increase in iteration there is increase in accuracy and there is a decrease in loss.