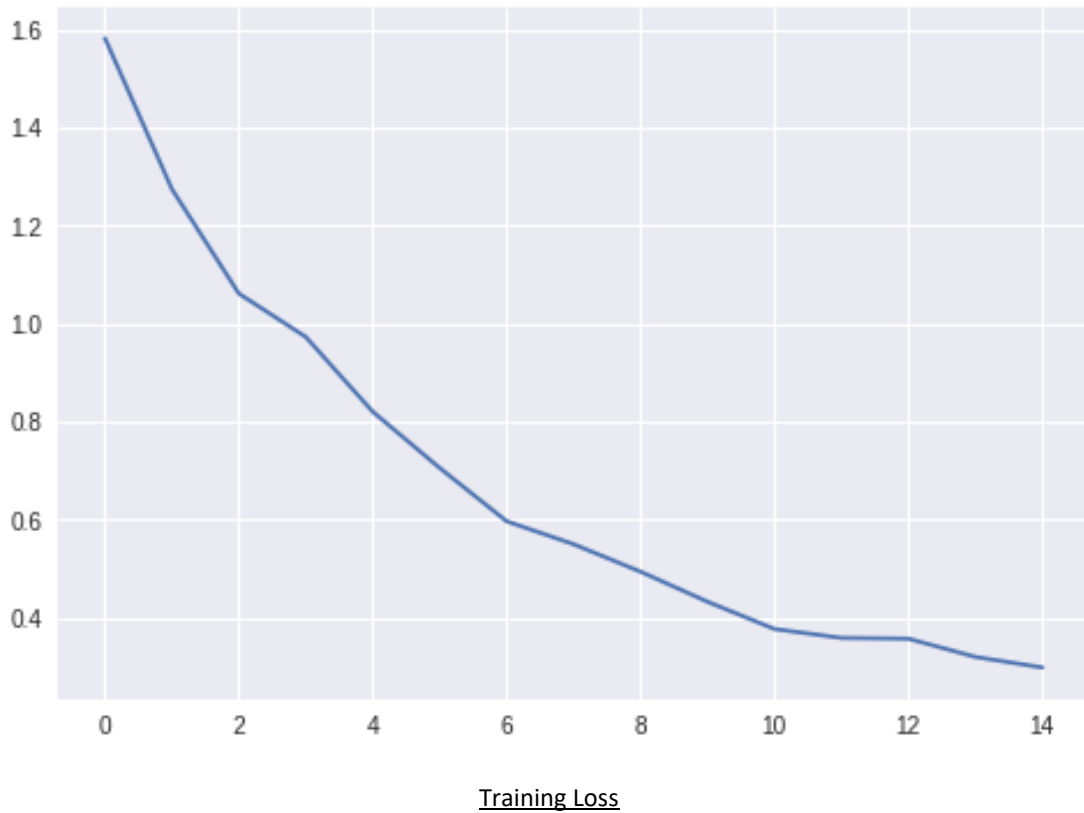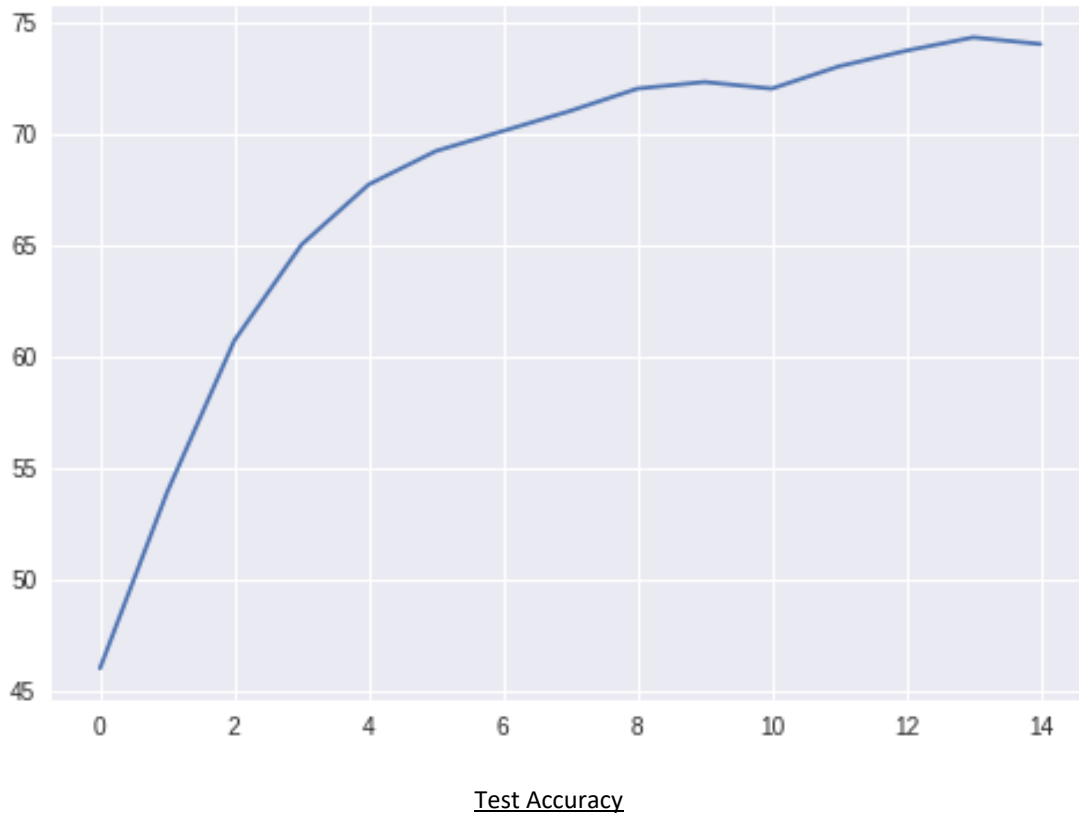# PROJECT REPORT

PROJECT 0

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1. I used a learning rate of 0.055 to train the LeNet. I set the number of epochs to 15. This gave me:

   Accuracy: 74.2%

   Loss: 0.14246759

Training Loss

Test Accuracy

2. Comparision of test accuracies and training losses for different variations of LeNet with learning rate set to 0.055 and after training the convolutional neural network for 15 epochs:

	Test Accuracy	Training Loss
Only Block 1 and Block 5	8.7%	2.301032
Only Block 1, Block 2 and Block 5	72.7%	0.50901
Only Block 1, Block 2, Block 3 and Block 5	73.6%	0.647

3. The learned 32 kernels of the first convolutional layer in LeNet are plotted below:
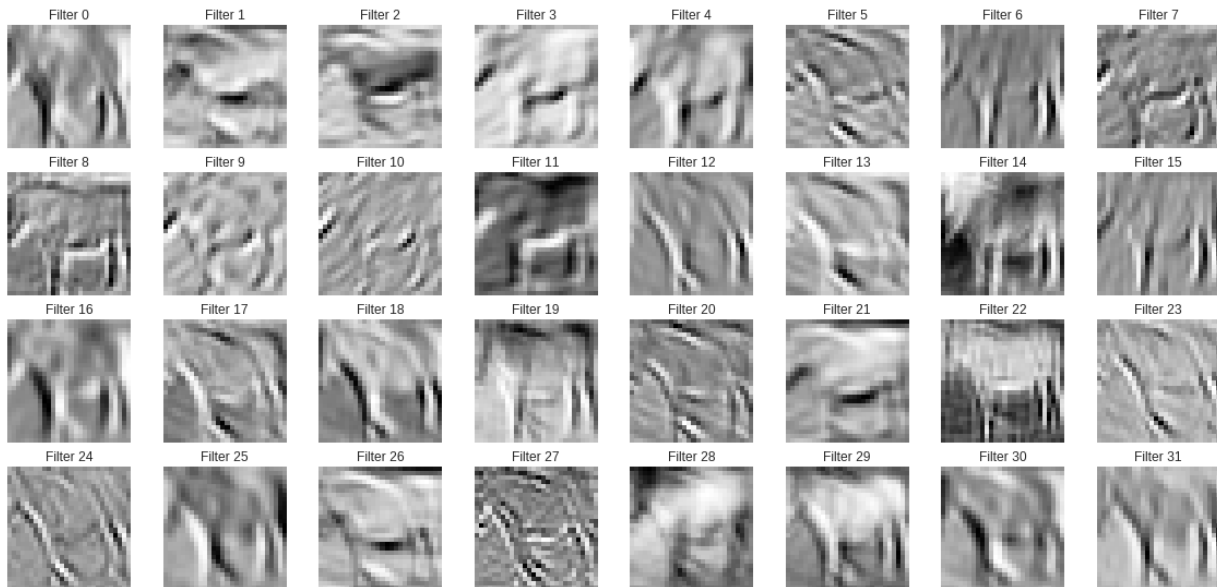
Learned 32 Filters of the first convolutional layer of LeNet

The following sample image was selected from the CIFAR-10 dataset:

Sample Image

The filter response maps for the above sample image are plotted below:

Filter Response Maps