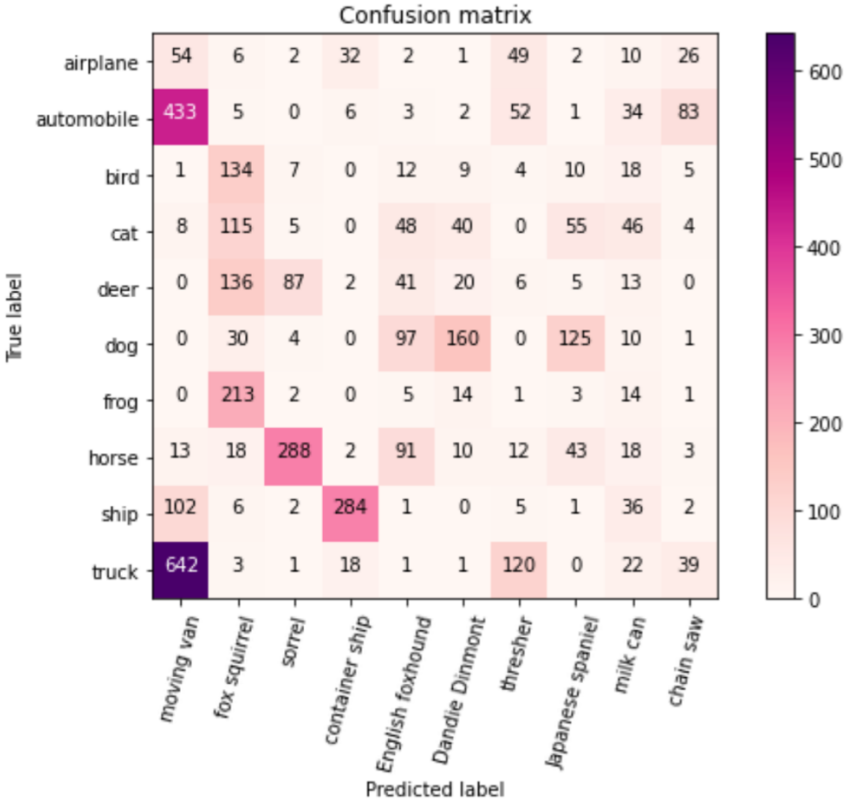
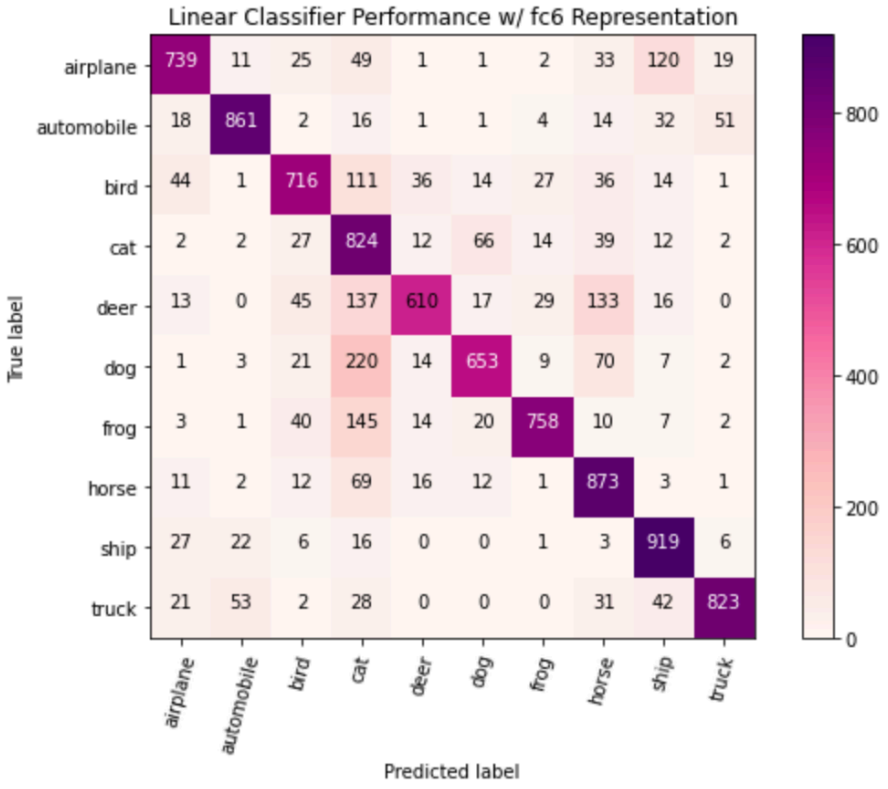
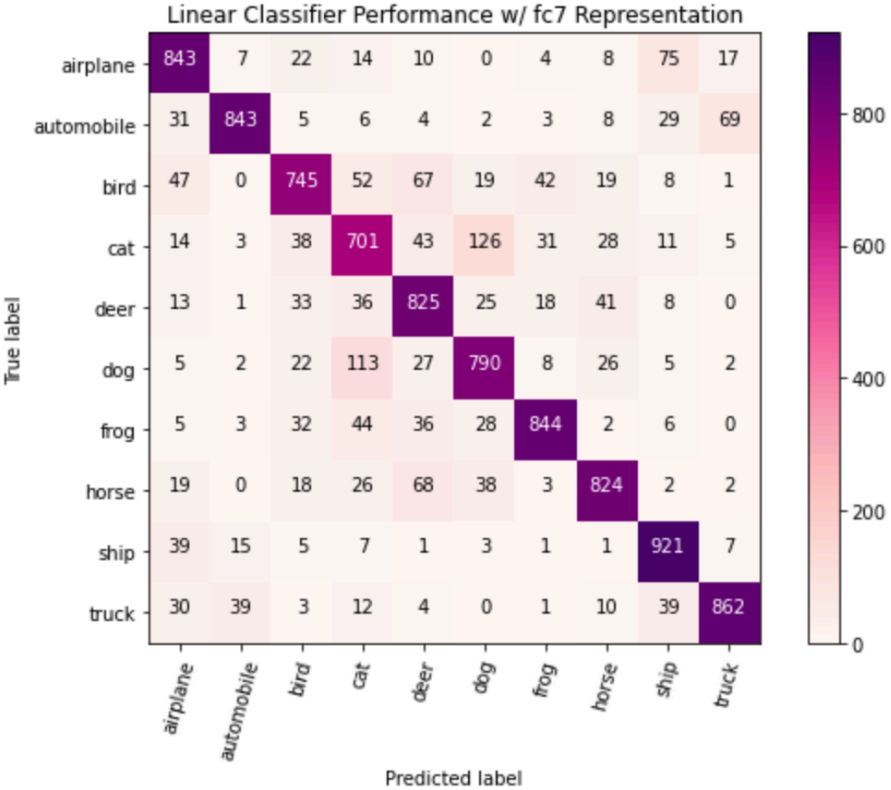
b) Confusion Matrix:



c) The accuracy of this model is approximately 78%.



d) The accuracy of this model is approximately 82%. Using outputs of fc6 and fc7 layers result in approximately the same accuracy percentage, with fc7 performing slightly better. This is due the fact that the pre-trained AlexNet model was trained on ImageNet dataset and not the CIFAR 10 dataset. Therefore, the features of in fc7 layer do not provide much benefit when predicting CIFAR 10 classes. In this scenario, when the two layers result in roughly the same accuracy, it is better to use the fc6 in order to avoid overfitting. Using linear regression on the output of the AlexNet produces good accuracy, which goes to show that we can use pre-trained models to transfer learning. In this scenario, there was no need to train the whole model (i.e., all of the layers), which saves time and resources.