## TIPR Assignment 3 Report Shilpa K K S R No: 15598

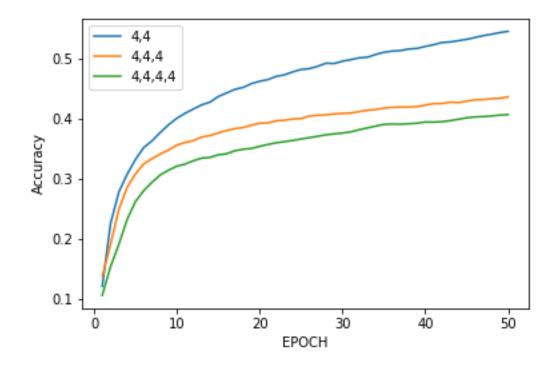
Python Version 3.7 has been used.

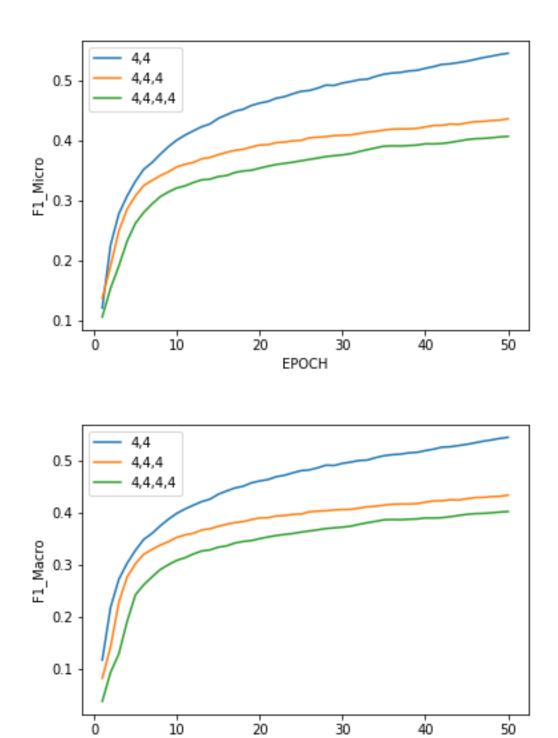
All the codes have been added to the src directory. Task 5 is implemented in the file task5a.py. All the other tasks have been implemented in main.py.

Plots and results for all tasks in parts one, two and three have been uploaded to output\_plots and output\_data directories respectively.

## PART ONE-CIFAR-10 DATASET

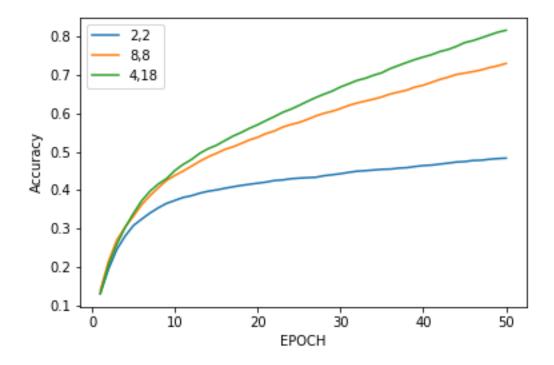
TASK 1-PLOTS OF ACCURACY, F1 SCORE(MACRO AND MICRO) V/S LAYER COUNT

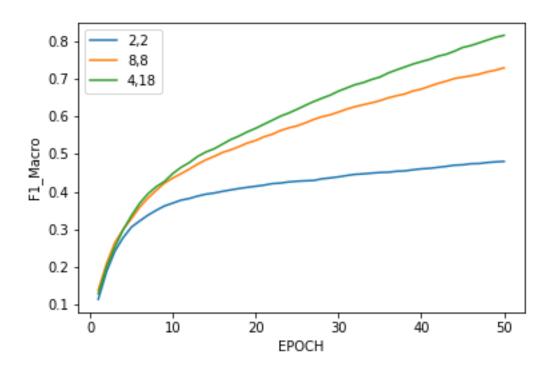


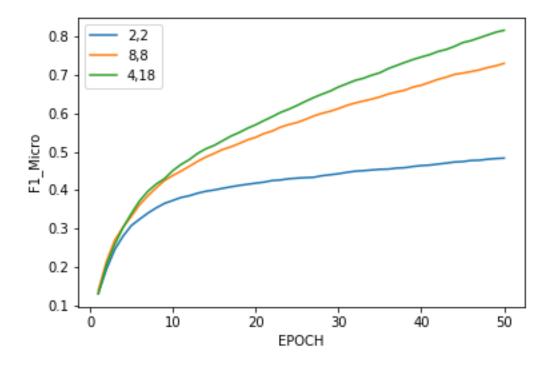


TASK 2-VARIOUS CONFIGURATIONS OF NUMBER OF NEURONS

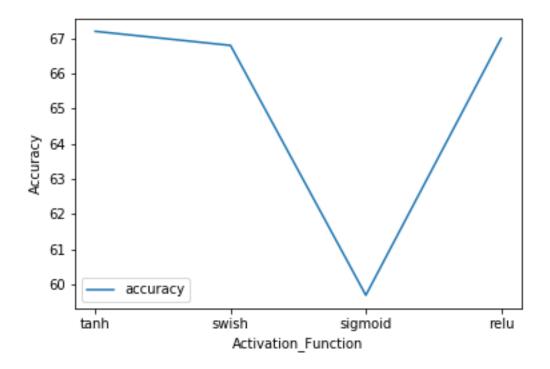
EPOCH

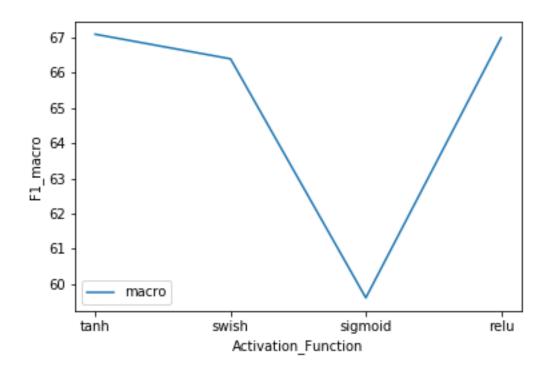


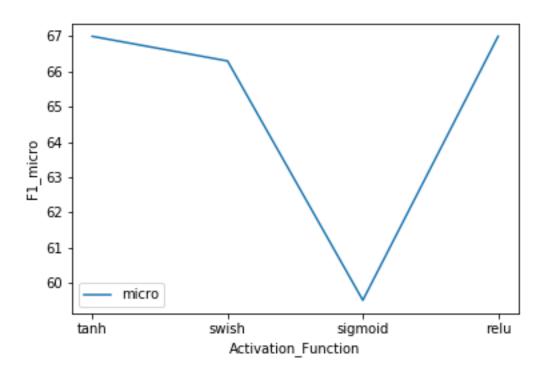




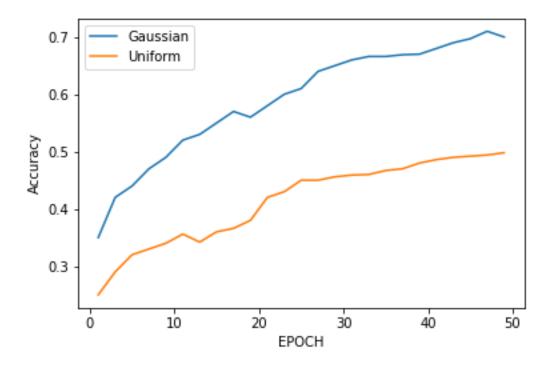
TASK 3-HIDDEN LAYER FED WITH DIFFERENT ACTIVATION FUNCTIONS

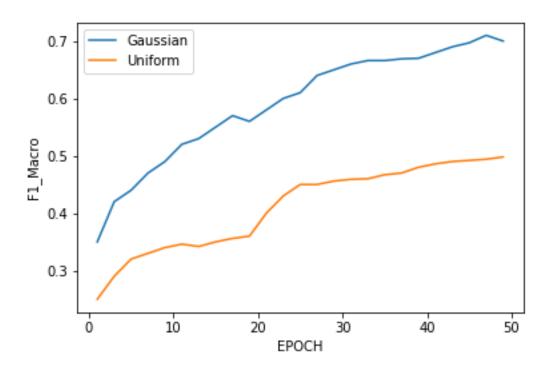


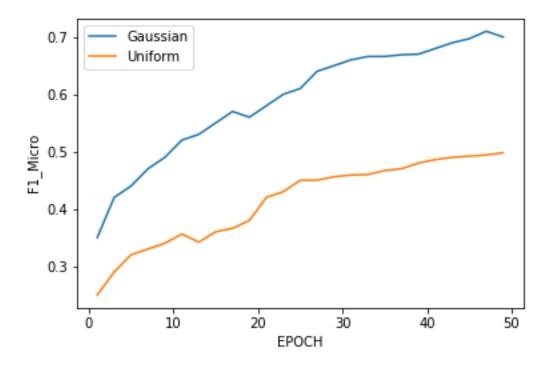




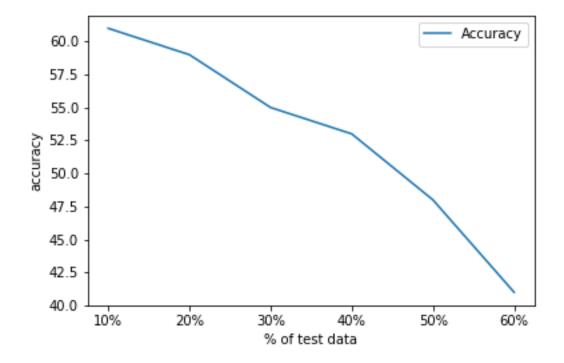
TASK 4-DIFFERENT INITIALIZATION TECHNIQUES



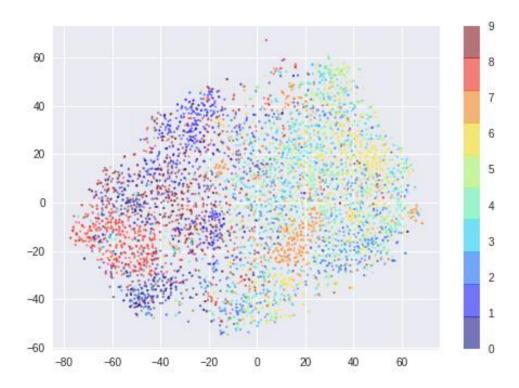




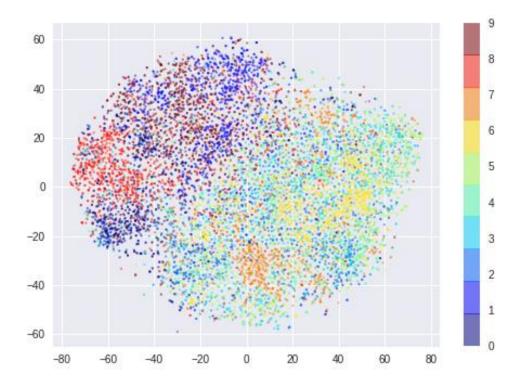
TASK 5-GENERATE EMBEDDINGS AND EVALUATE CLUSTERING ACCURACY



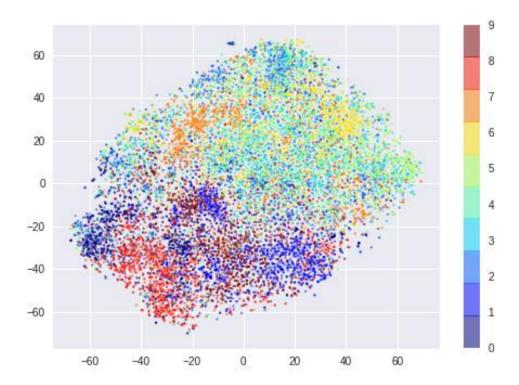
TASK6-t-SNE VISUALIZATION



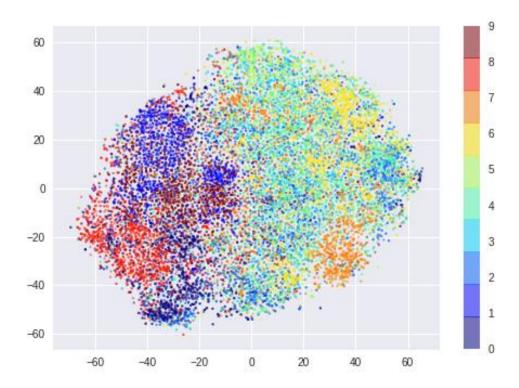
10% test data



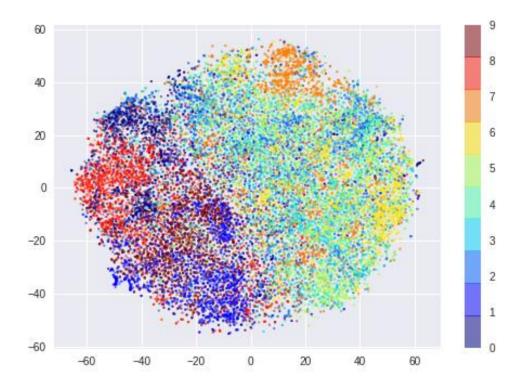
20% test data



30% test data

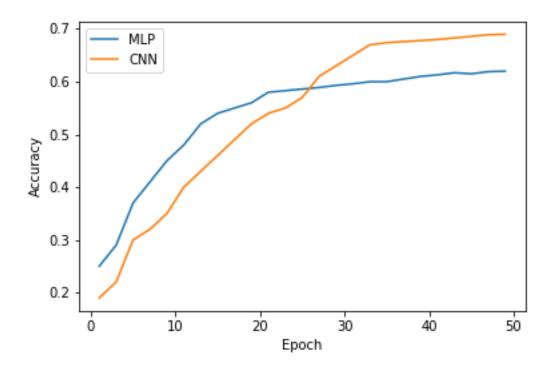


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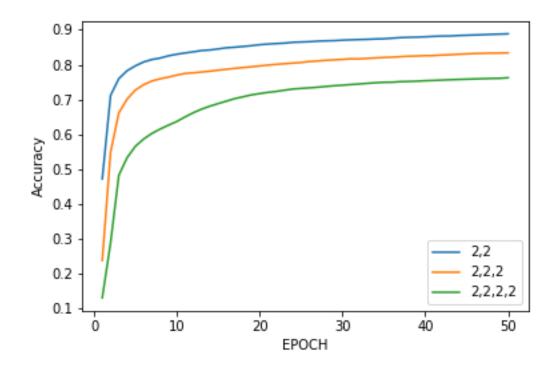
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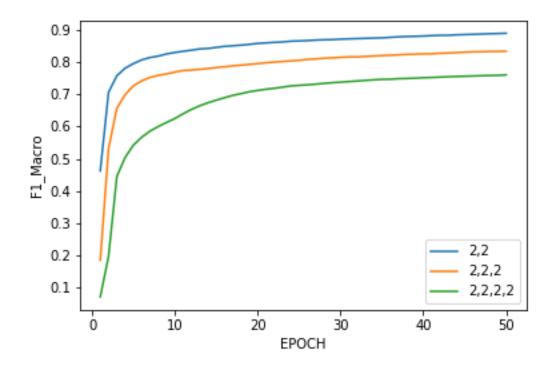
TASK 7-COMPARISON OF CNN WITH MLP

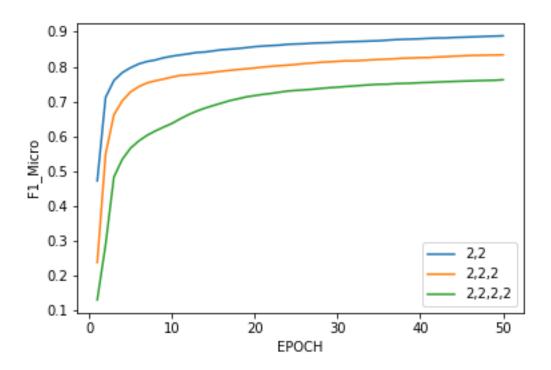


PART TWO-FASHION MNIST DATASET

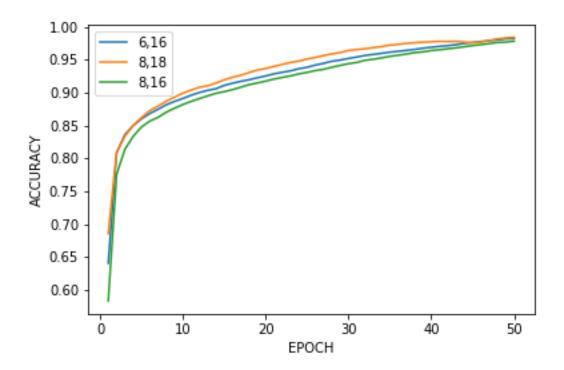
TASK 1-PLOTS OF ACCURACY, F1 SCORE(MACRO AND MICRO) V/S LAYER COUNT

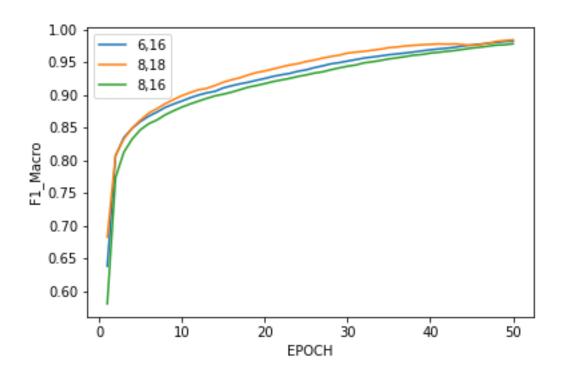


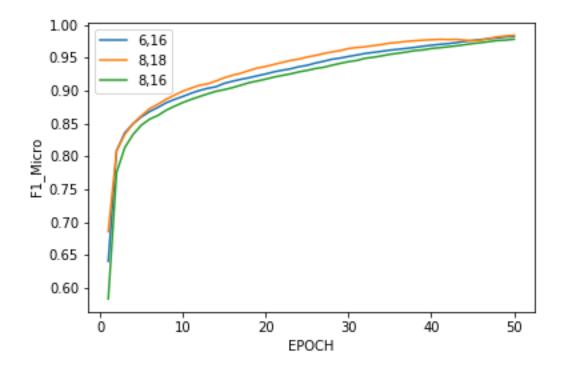




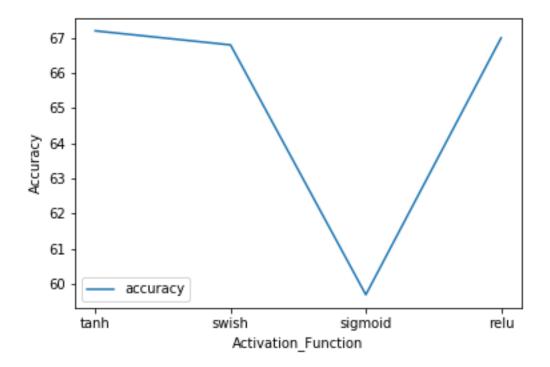
TASK 2-VARIOUS CONFIGURATIONS OF NUMBER OF NEURONS

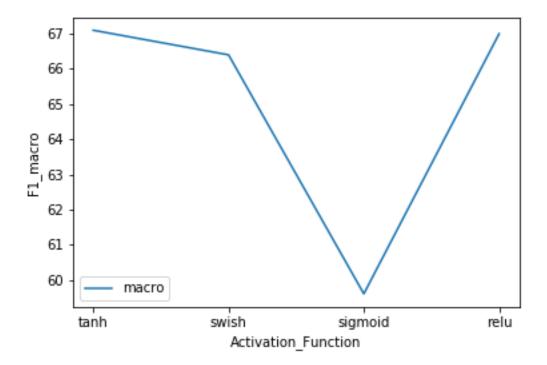


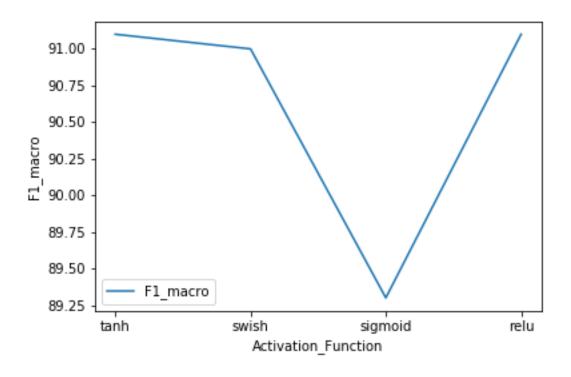


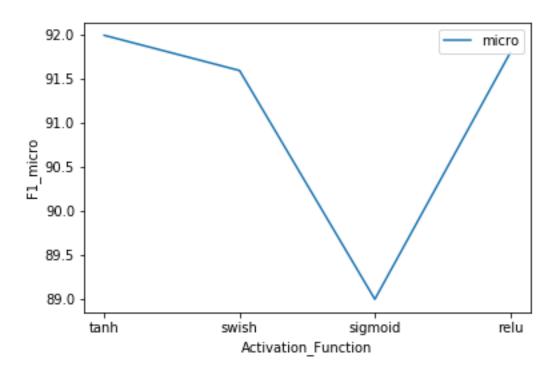


TASK 3-HIDDEN LAYER FED WITH DIFFERENT ACTIVATION FUNCTIONS

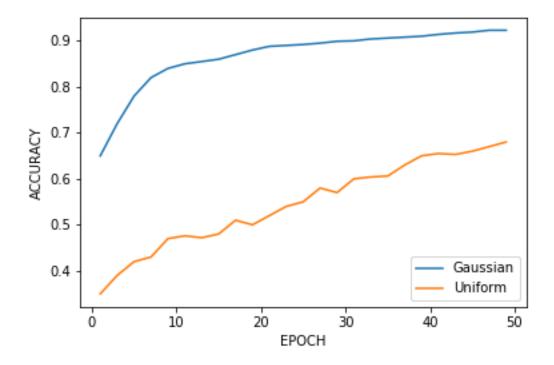


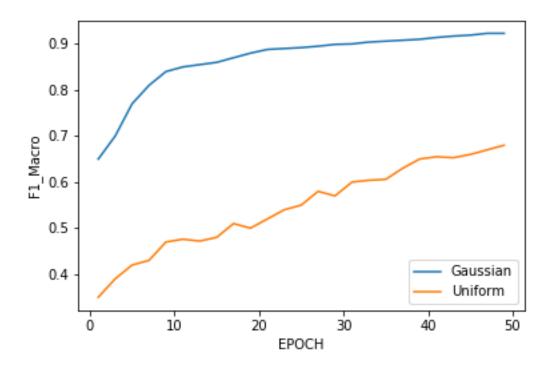


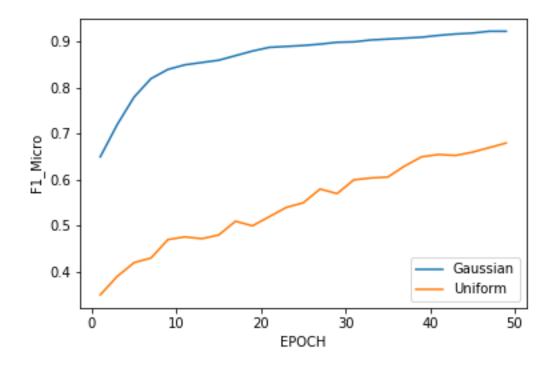




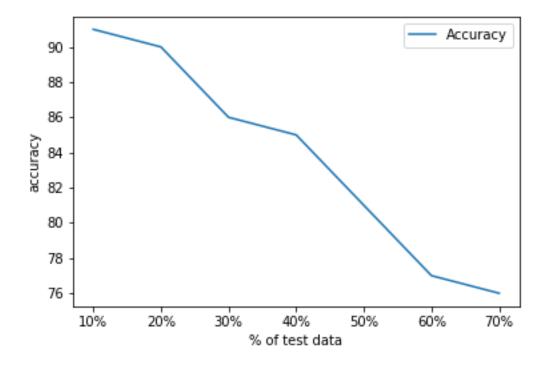
TASK 4-DIFFERENT INITIALIZATION TECHNIQUES



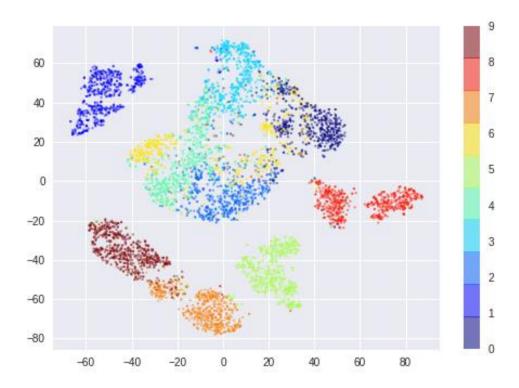




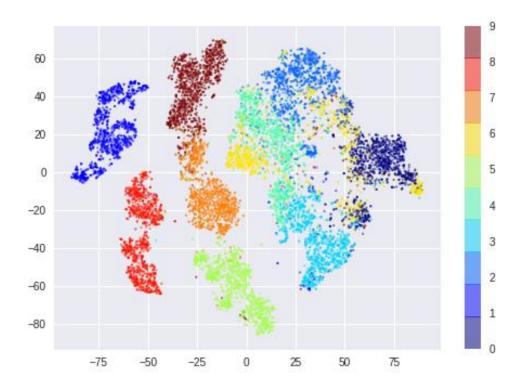
TASK 5-GENERATE EMBEDDINGS AND EVALUATE CLUSTERING ACCURACY



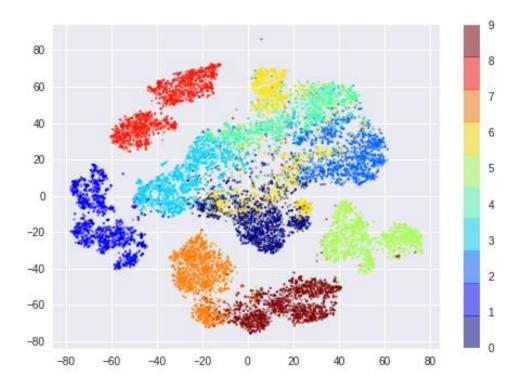
TASK6-t-SNE VISUALIZATION



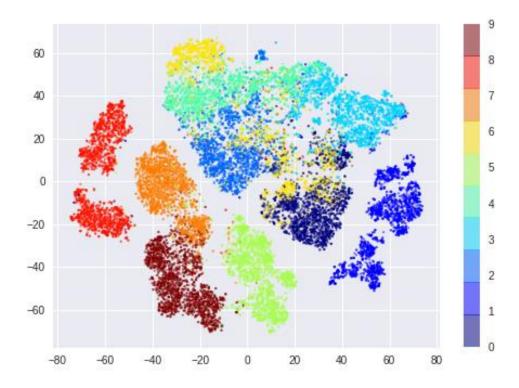
10% test data



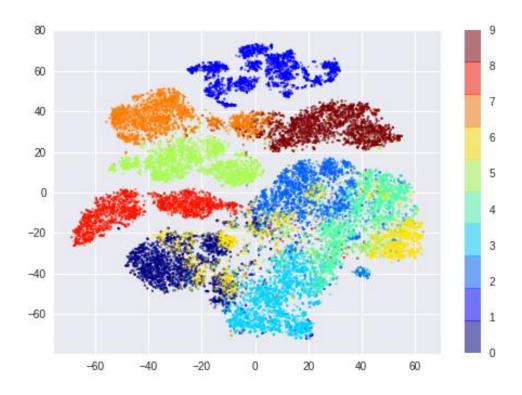
20% test data



30% test data



40% test data



50% test data

TASK 7-COMPARISON OF CNN WITH MLP

