10601 HW4 Report

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Q1:

Result:

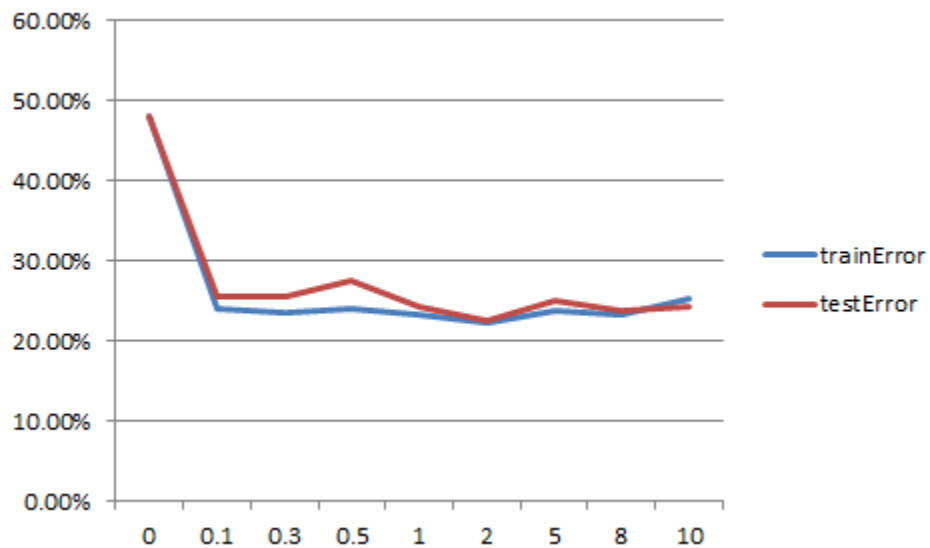k = 2, confLevel = 0.95, [0.627155 0.822845]

k = 2, confLevel = 0.99, [0.596410 0.853590]

k = 10, confLevel = 0.95, [0.460383 0.914617]

k = 10, confLevel = 0.99, [0.389018 0.985982]

Observation:

The larger the confidence level, the larger the confidence interval. When the group number increases, the confidence interval become larger.

Q2:

C= 2 gives the lowest training error (22.37%) and test error (22.50%). So I will use C= 2.

Q3:

The average accuracy for Logistic Regression is 98.16% and the average accuracy for NN is 99.03%. P-value under both one-tailed test and two-tailed is NAN. Therefore the performance of LR and NN on this data set is identical.