**CSE474/574 Introduction to Machine Learning**

**GROUP 54**

**Programming Assignment 3***Classification and Regression*

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**PART 1: LOGISTIC REGRESSION**

For Binary logistic regression, we have implemented “one vs all” strategy.

This method runs binary logistic regression for each class. Hence we run minimize on our objective function 10 times.(As there are 10 classes).

Following are the accuracy results for BLR:

*For 100 iterations of Minimize function.*

|  |  |
| --- | --- |
| Training Set Accuracy | **84.91%** |
| Validation Set Accuracy | **83.60%** |
| Test Set Accuracy | **84.09%** |

**PART 2: SUPPORT VECTOR MACHINE**

**PART 3: DIRECT MULTI-CLASS LOGISTIC REGRESSION**