**Name:**

**ID:**

**Date:**

**ITU, Computer Engineering Dept.**

**BLG527E, Machine Learning HW4**

**Due:** December 19, 2019, 23:00 through Ninova.

# Instructors: Yusuf Yaslan ([yyaslan@itu.edu.tr](mailto:yyaslan@itu.edu.tr))

**Grading:** You must complete the table below according to what you expect to get out of each question.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Q1 | Total |
| Grade | Max | 5 | 5 pts |
| Expected |  |  |

# Policy:

# Please do your homeworks on your own. You are encouraged to discuss the questions with your class mates, but the code and the hw you submitted must be your own work. Cheating is highly discouraged for it could mean a zero or negative grade from the homework.

# If a question is not clear, please let us know (via email or in class). Unless we indicate otherwise, do not use libraries for machine learning methods. When in doubt, email us.

# In order to be able to take the final exam for BLG527E you have to have a weighted average score of 30 (over 100) for midterm and homeworks. Otherwise you will get a VF from the course.

**Q1)** You will use the q2.mat dataset for this hw. The last column of the file shows the label (class -1 or class 1)

Use logistic discriminant algorithm (Alpaydın’s book Figure 10.6) to classify this dataset. Obtain 10 fold cross validation classification precision, recall and F1 results and report mean and standard deviation value of the resutls.

Plot 1 folds’ training and test error versus number of iterations