Here are detailed instruction for Project-Report #4:

***Note: You will need to report the running time for each classifier for LOOCV and 5-fold CV. If your dataset is large, pay extra attention to the running time for LOOCV as it may take up to hours to complete.***

***In that case, consider HPC from Xsede.***

## Here are codes on how to get running time.

start.time <- Sys.time()

***[… your procedure here…]***

end.time <- Sys.time()

time.taken <- end.time - start.time

time.taken

##

## Here are codes to write out your cross-validation outputs, for either 5-fold CV or LOOCV ##

Write.csv(KNN.OUT, “KNN\_OUT.csv”)

##

Use dataset from Project #3, consider all four classifiers we learned by last week for gender classification: Logistic Regression, LDA, QDA, and K-NN.

Step1: Apply 5-fold cross validation for all four classifiers of Logistic Regression, LDA, QDA, and K-NN. Find the overall prediction accuracy for each classifier. Note: If you would like to compare your results with your teammate(s), it is better to set to the same random seed within the group.

**Summarize your outputs into a large table for all prediction accuracies & standard errors for 5-fold CV, for all four classifiers.**

Step2: Make a side-to-side Boxplot for the prediction accuracy for all four classifier on 5-fold CV.

Step3: Apply LOOCV for all four classifiers of Logistic Regression, LDA, QDA, and K-NN. Find the overall prediction accuracy for each classifier.

**Summarize your outputs into a large table for all prediction accuracies & standard errors for LOOCV, for all four classifiers.**

Step4: Make a side-to-side Boxplot for the prediction accuracy for all four classifier on LOOCV.