Homework 3 (20 Points)
Due: 2022/11/04

Submission Guidlines

1. You need to write your homework in *Rmd/* ipynb/ Rnotebook.
2. Please submit two files: one script file and one generated *pdf file.

In this assignment, you will explore SVM with digits data, you are **not** allowed to use built-in logistic regression/SVM modules. Please implement the code by yourself.

1. Write the R code linear SVM model to classify the digits. I attached the data file and a file of code to be completed. Please moniter the training accuracy and testing accuracy and describe your finding.

2. Next, let's dive deeper into SVM, you should explore at least the following:

    a. difference choice of C in controling slackness
    b. Kernel SVM with Gaussian radial basis function.
    c. Another variation proposed by yourself.

Please moniter the training accuracy and testing accuracy and describe your finding for each method.