BIS 557 (3)

BIS557 Homework 3

This homework is due at the end of the day on October 30th. In the comparisons you may use the `penguinsi` data set in the bis557 package.

0. Create a "homework-3" vignette in your bis557 packages.
1. CASL 5.8 Exercise number 2. Include the write up in your homework-2 vignette.
2. Describe and implement a first-order solution for the GLM maximum likelihood problem using only gradient information, avoiding the Hessian matrix. Include both a constant step size along with an adaptive one. You may use a standard adaptive update Momentum, Nesterov, AdaGrad, Adam, or your own. Make sure to explain your approach and compare it's performance with a constant step size.
3. Describe and implement a classification model generalizing logistic regression to accommodate more than two classes.