**CSE-6363-007 Programming Assignment 1 (Spring 2024)**

**Due Date: 11:59 pm 02/25 (Sunday) (upload file in canvas)**

**Implementation Details (20%)**

**Code Annotations**

Include the relevant sections of your annotated code for both linear and logistic regression models. The annotations should explain the purpose of each block of code and provide insight into the logic behind your implementation choices.

**Hyperparameters**

Document the hyperparameters you chose for each model. Explain the rationale for selecting these values and how they might affect the model's performance.

**Results (60%)**

**Performance Metrics**

Discuss the performance of your models on training and test data. Highlight the cost or accuracy measurements for different sets of hyperparameters and interpret what these results suggest about your models.

**Visualization**

Include visualizations such as plots or confusion matrices that effectively illustrate the results of your models. For linear regression, this may be a plot of the regression line against the data points. For logistic regression, a confusion matrix could be used to reveal the true positives, true negatives, false positives, and false negatives.

Additionally, capture and provide screenshots demonstrating the execution of your code and the outputs obtained on your computer. These images should clearly show how you run your code on your computer and the final output of your code.

**Analysis (20%)**

**Comparison of Methods and Hyperparameters**

Offer an comparative analysis of both learning algorithms and the effects of hyperparameter tuning. Discuss the strengths and limitations of each method, how they compare, and what the results imply about their relevancy to the given problems.

**Impact and Optimization of Hyperparameters**

Examine the influence of hyperparameter modification on your models' outcomes and your strategies for hyperparameter optimization.

**Appendix**

Attach any additional materials here, such as:

Complete code.

Any external resources or references used in your implementation.