Week 2 Quiz

Due Feb 1 at 11:59pm **Points** 13 **Questions** 2
Available after Jan 26 at 12am **Time Limit** 25 Minutes **Allowed Attempts** 2

Instructions

instructions.png Instructions

This quiz consists of two questions. To be successful with the module quizzes, it's important to read the assigned chapters, practice exercises, and complete the interactive activities. Keep the following in mind:

- **Attempts:** You will have two attempts for this quiz with your highest score being recorded in the grade book.
- **Timing:** You will need to complete each of your attempts in one sitting, and you are allotted 25 minutes to complete each attempt.
- **Answers:** You may review your answer choices and compare them to the correct answers after your final attempt.

To start, click the "**Take the Quiz**" button. When finished, click the "**Submit Quiz**" button.

Technical Support Technical Support

Need help using Canvas Quizzes? If so, please review the following guide: **Canvas Student Guide - Quizzes (https://community.canvaslms.com/docs/DOC-10701#jive_content_id_Quizzes)**

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	13 out of 13

Attempt	Time	Score

Score for this attempt: **13** out of 13
Submitted Jan 27 at 10:31pm
This attempt took less than 1 minute.

Question 1

10 / 10 pts

Assume a linear model $y = w_0 + w_1 x$ and we use linear regression to train this model. The cost function is $MSE = \frac{1}{m}\sum_{i=1}^{m}\left(w^T \cdot x^{(i)} - y^{(i)}\right)^2$ (the gradient function is $\frac{\partial MSE}{\partial w_i} = \frac{2}{m}\sum_{i=1}^{m}\left(w^T \cdot x^{(i)} - y^{(i)}\right)x^{(i)}$).

Consider **stochastic** mode of linear regression and initial values $w_0 = 3,\ w_1 = 3$, and the learning rate $\lambda = 0.01$. What are w_0 and w_1 respectively after training with the following two examples of (x, y) in the given order?

(1, 3.05)

(4, 8.80)

- w0=2.6753, w1=2.4825
- w0=2.8229, w1=2.4686 — Correct!
- w0=1.8732, w1=2.4332
- w0=2.9291, w1=2.7287

Question 2

3 / 3 pts

Consider a training data set that contains a number of outliers. Without removing the outliers, which cost function will be more suitable for this

training data set for linear regression?

- Root Mean Square Error (RMSE)
- None of above

Correct!

- Mean Absolute Error (MAE)
- Mean Square Error (MSE)

Quiz Score: **13** out of 13