

# Nanoquiz Week 4

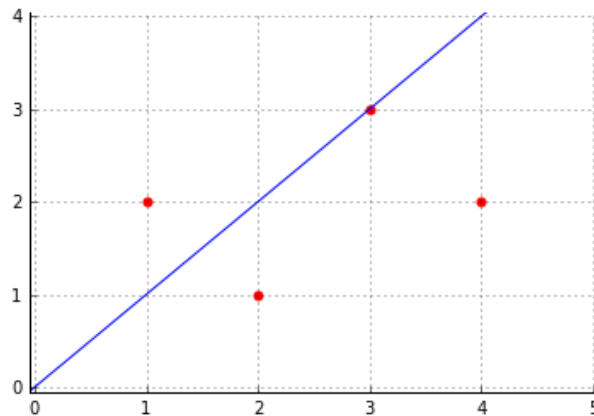
The questions below are due on Thursday March 08, 2018; 09:50:00 AM.

## Nanoquiz Instructions

Nanoquizzes are just like any other tutor exercise, except that they are timed, and that some questions allow a limited number of submissions. When the timer hits zero, you will be prevented from making any further submissions to the nanoquiz, and the answers will be displayed, so **please make sure you have submitted something before that occurs**.

Note that you are free to use any materials you want (electronic or otherwise, including notes, calculators, Python, and Wikipedia) during the nanoquiz, but you are **not** allowed to converse with other humans (including through text message, email, etc).

## Nanoquiz



- The data points (in x, y pairs) are:  $[(1, 2), (2, 1), (3, 3), (4, 2)]$

Consider the following "sum of squared errors" objective:

$$J(\theta, \theta_0) = \sum_{i=1}^n L(x^{(i)}, y^{(i)}, \theta, \theta_0)$$

with

$$L_s(x, y, \theta, \theta_0) = (y - \theta^T x - \theta_0)^2$$

1) What is the sum of the squared errors of the points with respect to the line?

Enter a number:

Save

Submit

View Explanation

Clear Answer

100.00%

As staff, you are always allowed to submit. If you were a student, you would see the following:

*You have infinitely many submissions remaining.*

Solution: 6

2) What is the gradient contribution from each point to the parameters of the line?

Provide a **list** of four pairs of numbers (as **tuples**, in the order of the points given above).

Save

Submit

Clear Answer

0.00%

As staff, you are always allowed to submit. If you were a student, you would see the following:

*You have infinitely many submissions remaining.*

Solution: [(-2, -2), (4, 2), (0, 0), (16, 4)]

3) Does this line minimize the sum of the squared errors?

Select one:

--

Save

Submit

Clear Answer

As staff, you are always allowed to submit. If you were a student, you would see the following:

*You have infinitely many submissions remaining.*

Solution: No