Nanoquiz Week 4

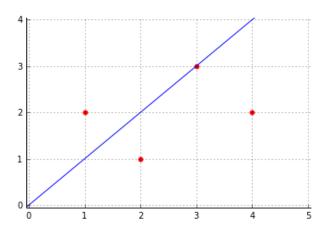
The questions below are due on Thursday March 08, 2018; 09:50:00 AM.

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)]

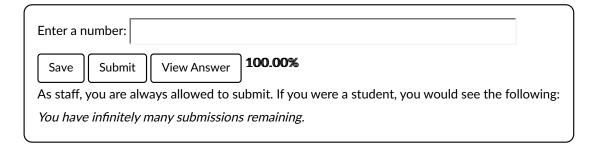
Consider the following "sum of squared errors" objective:

$$J(heta, heta_0) = \sum_{i=1}^n L(x^{(i)},y^{(i)}, heta, heta_0)$$

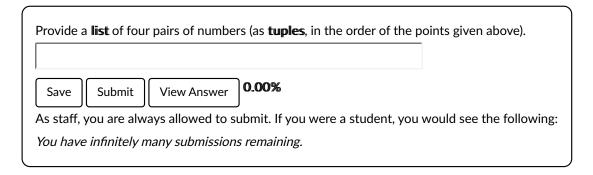
with

$$L_s(x,y, heta, heta_0) = (y- heta^T x - heta_0)^2$$

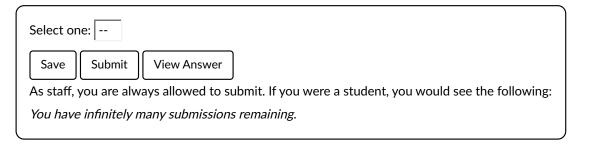
1) What is the sum of the squared errors of the points with respect to the line?



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



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



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