[Lab] Non-regularized regression

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Due: Before the end of today lab session.
Evaluation: Code and explanation about the code
Remark:

- Only groups of two or three people accepted (preferably three). Forbidden groups of fewer or larger number of people.
- Submit your homework before the due time.
- No plagiarism. If plagiarism happens, both the "lender" and the "borrower" will have a zero.
- Code yourself from scratch. No homework will be considered if you solve the problem using any ML library.
- Do thoroughly all the demanded tasks.
- Study the theory for the questions.

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1 Tasks

1.1 Lab

1) Read the dataset given in the provided file `data_lab1.txt` and plot the output value as a function of the input data.

2) Divide the data into training data (the first 70% of total data) and test data (the last 30% of total data).

3) Using training data, fit the univariate linear regression parameters to the dataset using batch gradient descent (BGD). What are the optimal values of the parameters?

4) Using test data, test your model (obtained using the BGD).

5) Plot the linear regressors (obtained using the BGD) for training and for test, on top of the original dataset. Discern whether your results are good or not.

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