

Overview:  
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Implementation of logistic regression using Iterative Reweighted Least Squares to fit a line or a second-degree polynomial to a set of training data

Language:  
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MATLAB

Commands to run the program:  
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logistic\_regression <training\_file> <degree> <test\_file>

The arguments provide to the program the following information:

- The first argument, <training\_file>, is the path name of the training file, where the training data is stored.

The path name can specify any file stored on the local computer.

- The second argument, <degree> is a number equal to either 1 or 2. We will not test your code with any other values.

The degree specifies what function  $\tilde{f}$  you should use. Suppose that you have an input vector  $x = (x_1, x_2, \dots, x_D)^T$ .

- > If the degree is 1, then  $\tilde{f}(x) = (1, x_1, x_2, \dots, x_D)^T$ .

- > If the number is 2, then  $\tilde{f}(x) = (1, x_1, (x_1)^2, x_2, (x_2)^2, \dots, x_D, (x_D)^2)^T$ .

- The third argument, <test\_file>, is the path name of the test file, where the test data is stored.

The path name can

specify any file stored on the local computer.