Algorithm Steepest-Descent for Logistic Regression

Input $\beta^0 \in \mathbb{R}^n$ initial point

For $k = 0, 1, \ldots$

1. calculate $d^k = \frac{1}{N} \sum_{i=1}^{N} \left(y_*^i - \frac{1}{1+e^{f(x^i)}} \right) x^i$
2. find η^k by *line minimization*
3. $\beta^{k+1} \rightarrow \beta^k - \eta^k d^k$

until *stopping condition satisfied*

Output β^{k+1}