$$F(x) = \frac{1}{2}\|Ax - b\|_2^2 + \lambda\|x\|_1$$

$$F(x) = \frac{1}{2}\|Ax - b\|_2^2 + \frac{\lambda}{2}\|x\|_2^2$$

$$F(x) = \frac{1}{2}\sum_{j=1}^{m}\max\{0, 1 - y_j A_j^T x\}^2 + \lambda\|x\|_1$$

$$F(x) = \frac{1}{2}\sum_{j=1}^{m}\max\{0, 1 - y_j A_j^T x\}^2 + \frac{\lambda}{2}\|x\|_2^2$$

$$F(x) = \sum_{j=1}^{m}\log(1 + e^{-y_j A_j^T x}) + \lambda\|x\|_1$$

$$F(x) = \sum_{j=1}^{m}\log(1 + e^{-y_j A_j^T x}) + \frac{\lambda}{2}\|x\|_2^2$$

$$F(x) = \frac{1}{m}\sum_{j=1}^{m}\max\{0, 1 - y_j A_j^T x\} + \frac{\lambda}{2}\|x\|_2^2$$

- $A \in R^{m \times n}$
- $A_j \in R^n$ is a column vector consisting of j-th row of matrix A