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# Basics of Neural Network Programming

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Logistic Regression  
Gradient descent

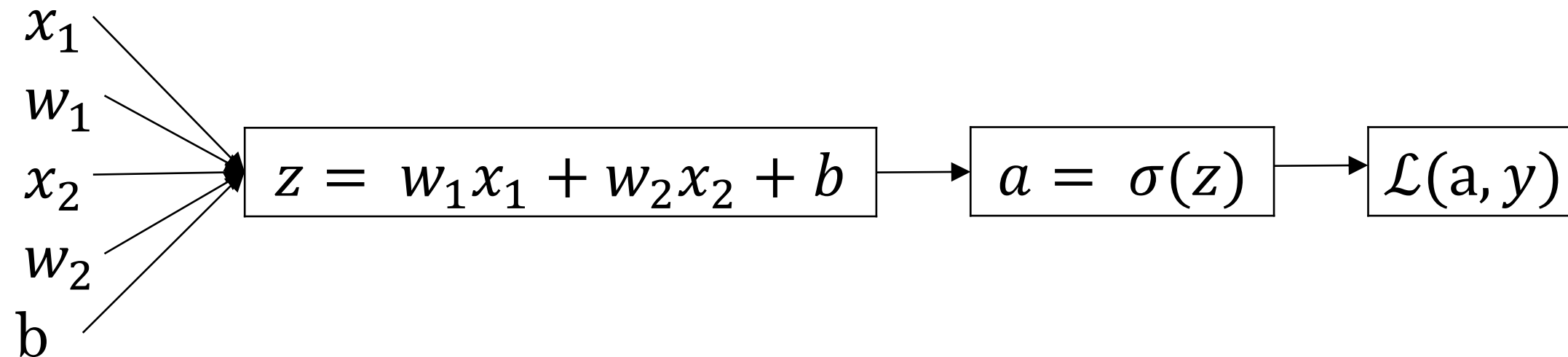
# Logistic regression recap

$$z = w^T x + b$$

$$\hat{y} = a = \sigma(z)$$

$$\mathcal{L}(a, y) = -(y \log(a) + (1 - y) \log(1 - a))$$

# Logistic regression derivatives





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Gradient descent  
on *m* examples

# Logistic regression on $m$ examples

# Logistic regression on $m$ examples