

Computation Graphs

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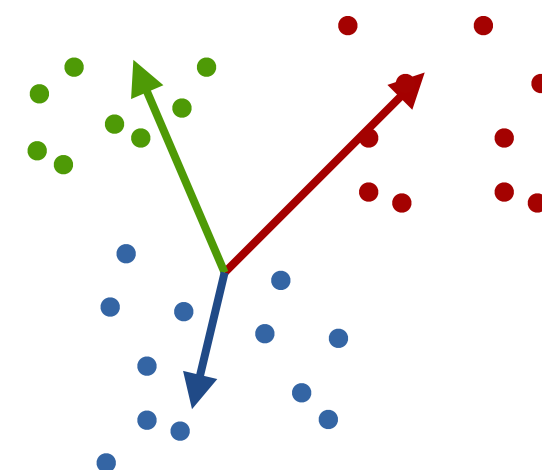
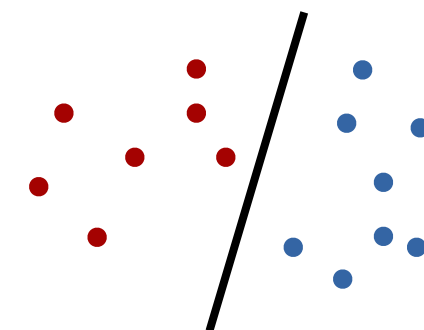
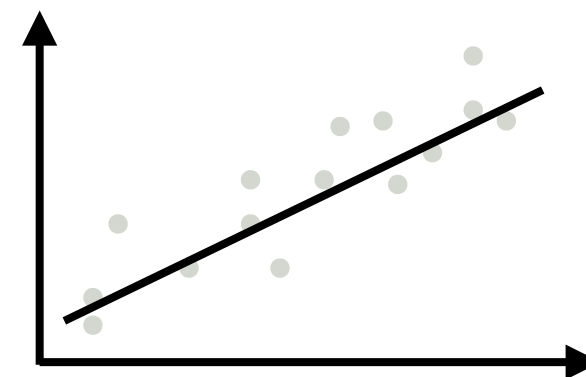
Regression and classification

- Models

- $\hat{y} = \mathbf{w}^\top \mathbf{x} + b$

- $\hat{p}(1) = \sigma(\mathbf{w}^\top \mathbf{x} + b)$

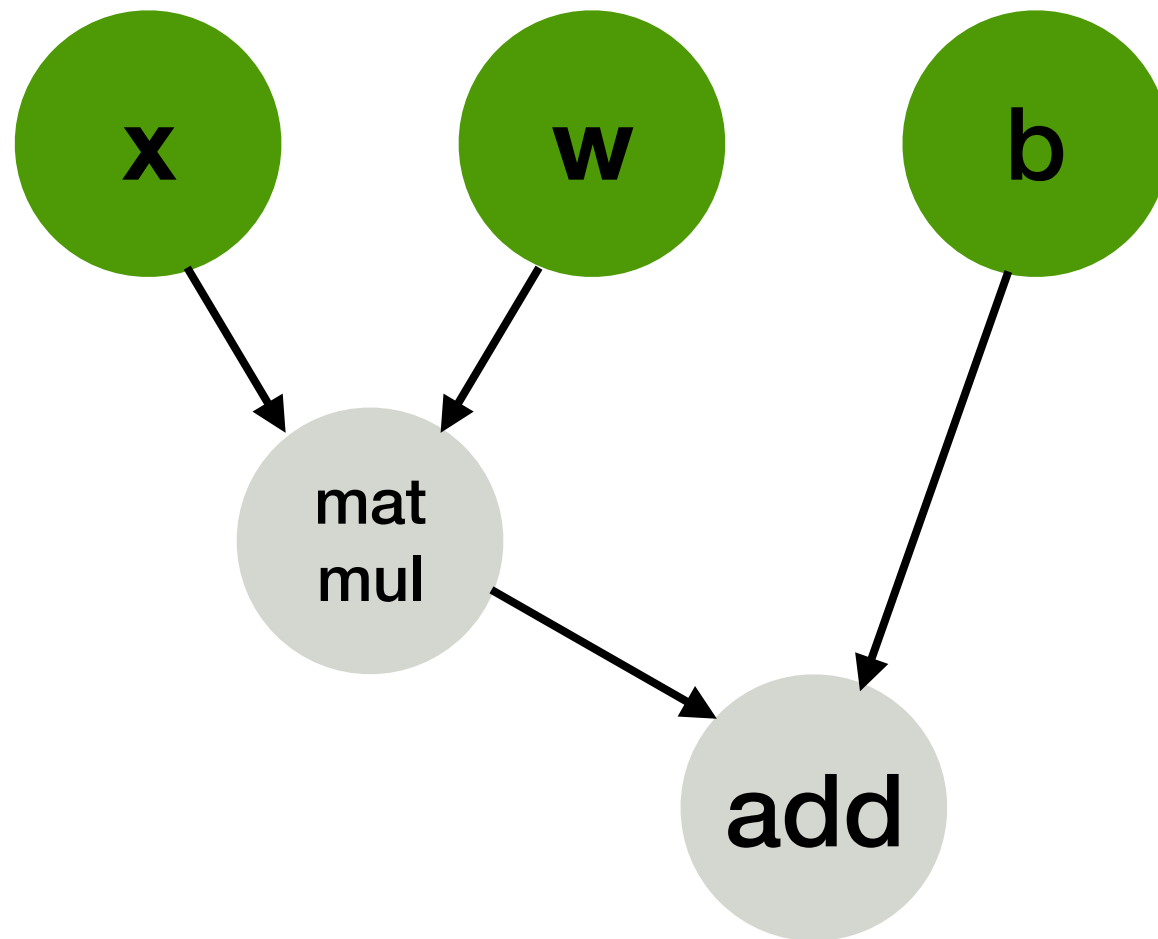
- $\hat{\mathbf{p}} = \text{softmax}(\mathbf{W}^\top \mathbf{x} + \mathbf{b})$



Computation Graph

- Linear regression:

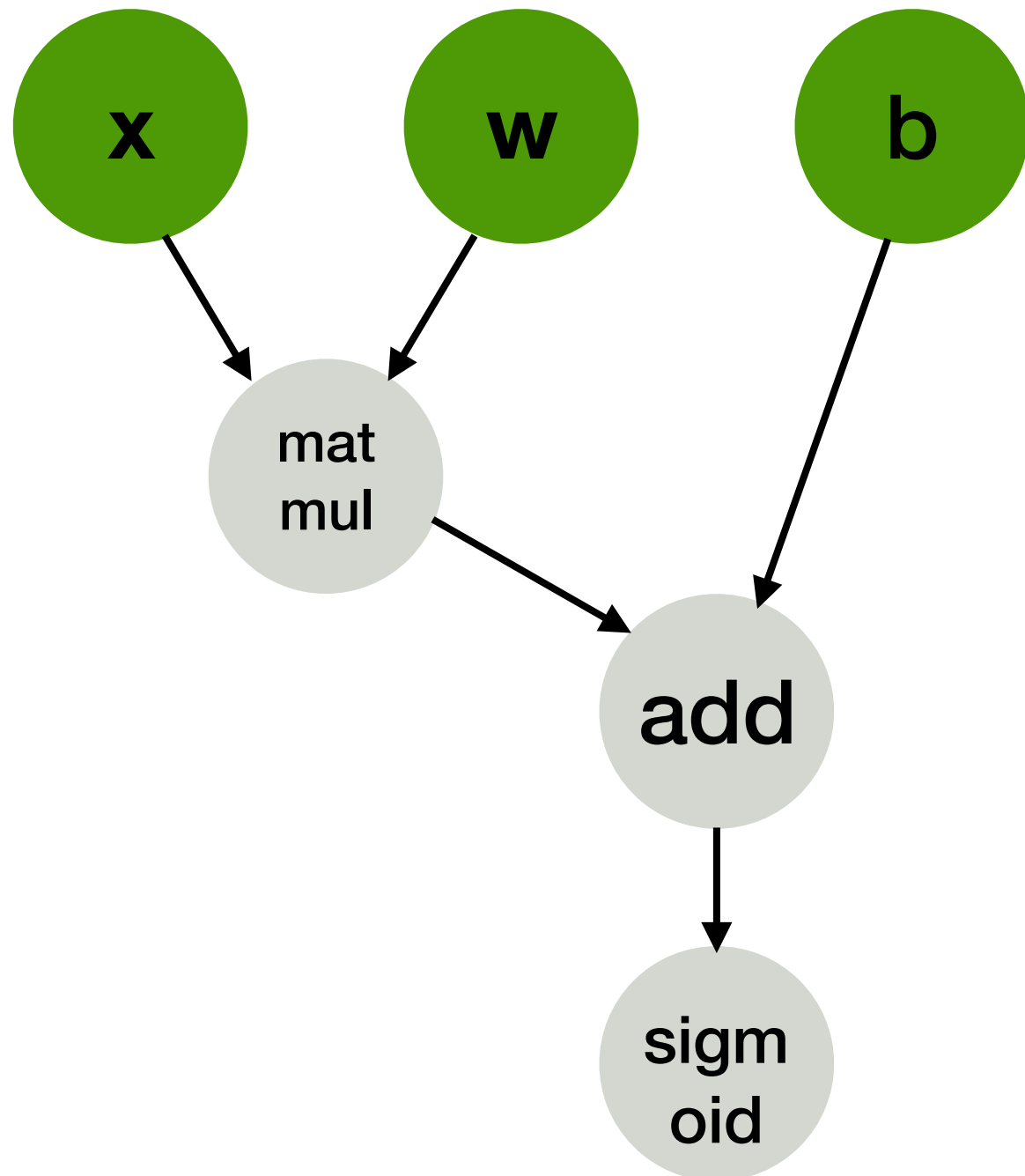
- $w^T x + b$



Computation Graph

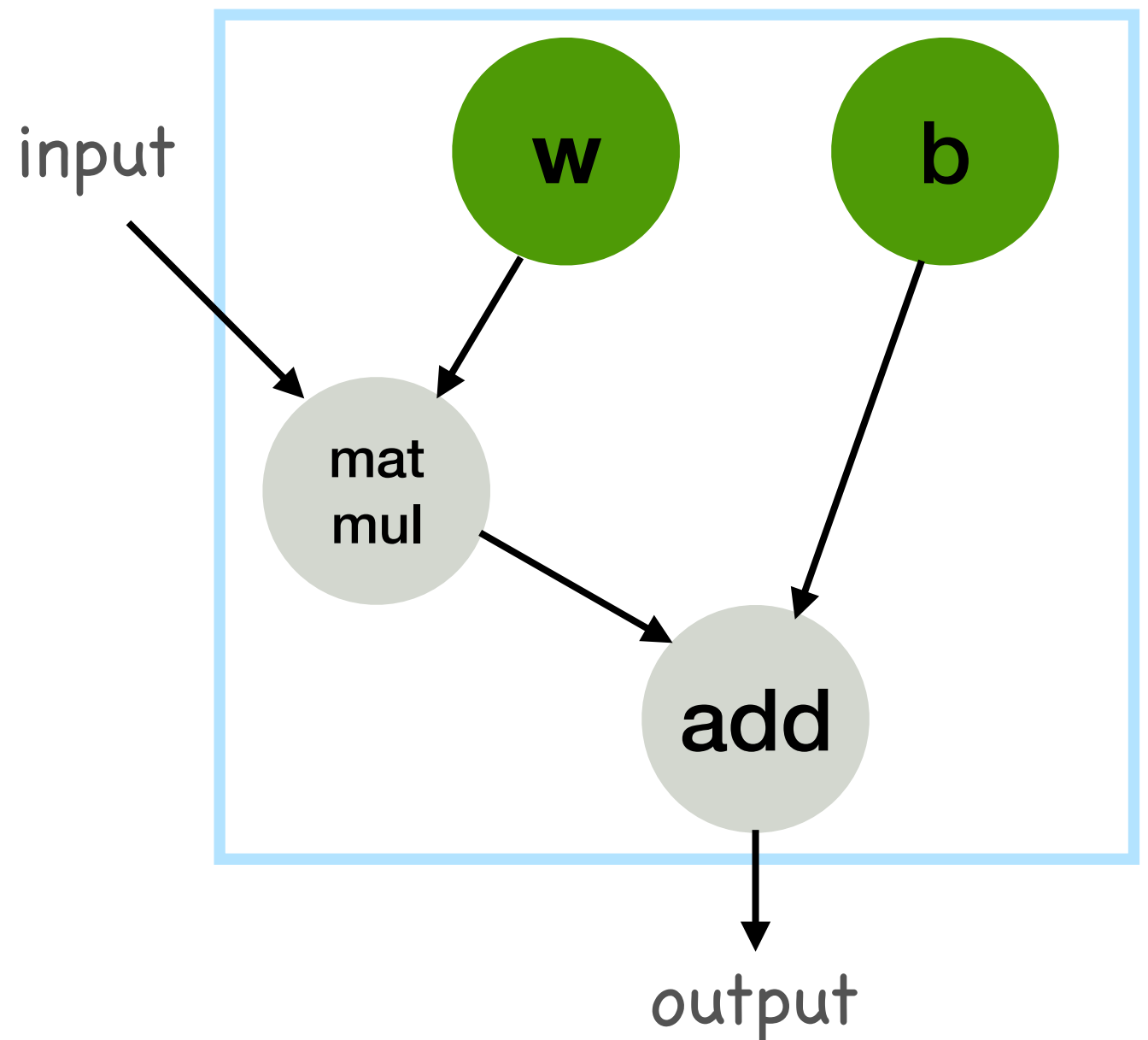
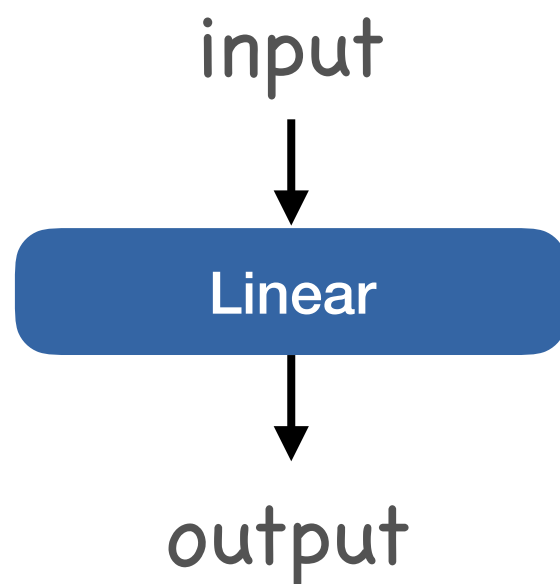
- Logistic regression:

- $\sigma(\mathbf{w}^T \mathbf{x} + b)$



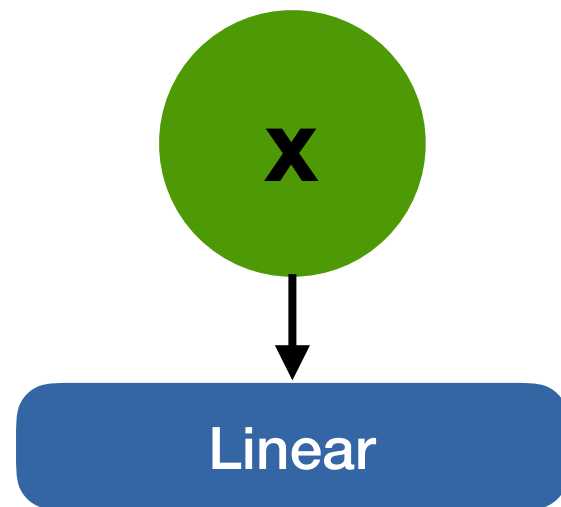
Computation Graph - abstraction

- Linear layers



Computation Graph - abstraction

Linear regression:



Logistic regression:

