$$\mathcal{L}(\boldsymbol{\theta}, \mathbf{x}) = \sum_{i=1}^{|\mathbf{x}|} \log \theta_{x_i}$$

$$\boldsymbol{\theta}^{\text{MLE}} = \arg\max_{\boldsymbol{\theta}} \mathcal{L}(\boldsymbol{\theta}, \mathbf{x})$$

$$\theta_w^{\text{MLE}} = \frac{1}{|\mathbf{x}|} \sum_{i=1}^{|\mathbf{x}|} \delta_w(x_i) \quad \forall w \in \mathbf{x}$$