## **General form of Expectation Maximization**

$$\log p(X \mid \theta) = \sum_{i=1}^{N} \log p(x_i \mid \theta)$$

$$= \sum_{i=1}^{N} \log \sum_{c=1}^{3} p(x_i, t_i = c \mid \theta) \ge \mathcal{L}(\theta)$$

$$\log p(X \mid \theta)$$

$$\mathcal{L}(\theta) \qquad \widehat{\theta} \qquad \theta^*$$