

$$\|\omega\|_\infty = \max_i (w_i)$$

$$\begin{aligned}\|\omega\|_2^2 &= \sum_{i=0}^n w_i^2 \\ \|\omega\|_2 &= \sqrt{\sum_{i=0}^n w_i^2} \\ &\quad \left( \text{because } \sum_{i=0}^n w_i^2 = w_0^2 + w_1^2 + w_2^2 + \dots + w_n^2 \right) \\ \|\omega\|_1 &= \sum_{i=0}^n |w_i| = |w_0| + |w_1| + \dots + |w_n|\end{aligned}$$

$$x^T y = \sum_{i=1}^n x_i y_i$$

$$x^T y = \frac{1}{C} \sum_{i=1}^n$$