

from linearalgebra import det

$$E = \begin{bmatrix} x_1 - x_0 & x_2 - x_0 & x_3 - x_0 \end{bmatrix}$$
$$\text{Vol}(i, j, k, l) = \frac{1}{6} \det(E)$$

where

$$x_0 \in \mathbb{R}^3$$

$$x_1 \in \mathbb{R}^3$$

$$x_2 \in \mathbb{R}^3$$

$$x_3 \in \mathbb{R}^3$$