$$A = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix} | ||B||_{\infty} = \frac{|a_{12}|}{|a_{21}|} | ||B||_{\infty} = \frac{|a_{21}|a_{12}|}{|a_{11}|a_{22}|}$$