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For a 2×2

$$B_{GS} = -(L + D)^{-1} U$$

$$\dots \sum_{j=1, j \neq i, i=1}^n |a_{ii}| > |a_{ij}|$$

APPLY TO B_{GS}

$$j=2, i=1$$

$$|a_{11}| > |a_{12}|$$

$$= \emptyset > -\frac{a_{22}}{a_{11}} \dots$$

$$= - \begin{bmatrix} \frac{1}{a_{11}} & \emptyset \\ -\frac{a_{21}}{a_{11}a_{22}} & \frac{1}{a_{22}} \end{bmatrix} \cdot \begin{bmatrix} 0 & a_{22} \\ 0 & 0 \end{bmatrix}$$

$$= - \begin{bmatrix} \emptyset & \frac{a_{22}}{a_{11}} \\ \emptyset & -\frac{a_{21}}{a_{11}} \end{bmatrix} = \begin{bmatrix} \emptyset & -\frac{a_{22}}{a_{11}} \\ \emptyset & \frac{a_{21}}{a_{11}} \end{bmatrix}$$