

$\frac{2}{a}$

$$A = L U$$

$$\begin{bmatrix} 0 & 1 \\ 1 & 1 \end{bmatrix} = \begin{bmatrix} l_{11} & 0 \\ l_{12} & l_{22} \end{bmatrix} \begin{bmatrix} u_{11} & u_{12} \\ 0 & u_{22} \end{bmatrix}$$

$$l_{11} u_{11} = 0 \longrightarrow u_{11} = 0$$

$$l_{12} u_{11} = 1 \longrightarrow u_{11} \neq 0$$

$$l_{11} u_{12} = 1$$

BY CONTRADICTION,  
A MUST NOT  
HAVE AN LU DECOMP. . .