2
a

$$A = LU$$

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

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

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

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

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