

5.2)

partition A: $A = \begin{bmatrix} A_{00} & a_{01} \\ a_{01}^T & \alpha_{11} \end{bmatrix}$

let $\delta_{11} = \alpha_{11}$

compute u_{01} :

$u_{01} := a_{01} / \delta_{11}$ (element-wise division)

update A_{00} :

$A_{00} := A_{00} - u_{01} \cdot a_{01}^T$ only update upper-triangular part.

update a_{01} :

$a_{01} := u_{01}$

recursively compute $A_{00} \rightarrow u_{00} D_{00} u_{00}^T$

the algorithm will work as long as $\delta_{11} \neq 0$