Solve For ℓ_{ij} For L

$\ell_{11}^2 = 4 \Rightarrow \boxed{\ell_{11} = 2}$

$\ell_{11} \cdot \ell_{21} = 1/2 = 2 \cdot \ell_{21} \Rightarrow \boxed{\ell_{21} = 1/4}$

$\ell_{11} \cdot \ell_{31} = 1 = 2 \cdot \ell_{31} \Rightarrow \boxed{\ell_{31} = 1/2}$

$\ell_{21}^2 + \ell_{22}^2 = 17/16, \quad (1/4)^2 + \ell_{22}^2 = 17/16, \quad \ell_{22}^2 = 17/16 - 1/16 \Rightarrow \boxed{\ell_{22} = 1}$

$\ell_{21}\ell_{31} + \ell_{22}\ell_{32} = 1/4 = 1/4 \cdot 1/2 + 1 \cdot \ell_{32} = 1/4, \quad \ell_{32} = 1/4 - 1/8 \Rightarrow \boxed{\ell_{32} = 1/8}$

$\ell_{31}^2 + \ell_{32}^2 + \ell_{33}^2 = 33/64 = \ell_{33}^2 + (1/2)^2 + (1/8)^2, \quad \ell_{33}^2 = 33/64 - 1/4 - 1/64 = 1/4 \Rightarrow \boxed{\ell_{33} = 1/2}$

$$L = \begin{bmatrix} 2 & 0 & 0 \\ 1/4 & 1 & 0 \\ 1/2 & 1/8 & 1/2 \end{bmatrix}$$

Total FLOPS

For k=1:n

$L(k,k) = \sqrt{A(k,k)}$ // None

$L(k+1:n, k) = \ldots$ //