

$$\begin{aligned}
 \mathbf{P}^{-1}\mathbf{A}\mathbf{P} &= \begin{bmatrix} 1 & & & \\ & 1 & & \\ & & 1 & \\ & & & 1 \end{bmatrix} \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{31} & a_{32} & \textcolor{red}{a}_{33} & \textcolor{green}{a}_{34} \\ a_{41} & a_{42} & \textcolor{blue}{a}_{43} & \textcolor{violet}{a}_{44} \end{bmatrix} \begin{bmatrix} 1 & & & \\ & 1 & & \\ & & 1 & \\ & & & 1 \end{bmatrix} \\
 &= \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{41} & a_{42} & \textcolor{blue}{a}_{43} & \textcolor{violet}{a}_{44} \\ a_{31} & a_{32} & \textcolor{red}{a}_{33} & \textcolor{green}{a}_{34} \end{bmatrix} \begin{bmatrix} 1 & & & \\ & 1 & & \\ & & 1 & \\ & & & 1 \end{bmatrix} = \begin{bmatrix} a_{11} & a_{12} & a_{14} & a_{13} \\ a_{21} & a_{22} & a_{24} & a_{23} \\ a_{41} & a_{42} & \textcolor{violet}{a}_{44} & \textcolor{blue}{a}_{43} \\ a_{31} & a_{32} & \textcolor{green}{a}_{34} & \textcolor{red}{a}_{33} \end{bmatrix}
 \end{aligned}$$