$$P = {}^{0}_{1} \begin{pmatrix} 2 & 3 \\ 1 & 1 \\ 0 & 1 \end{pmatrix} M_{1} = {}^{0}_{1} \begin{pmatrix} 1 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 1 & 0 \end{pmatrix} M_{2} = {}^{0}_{1} \begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{pmatrix}$$