$$\tau_m := \begin{pmatrix} 0 & 0 & ... & 0 & 0 \\ 1 & 0 & ... & 0 & 0 \\ ... & ... & ... & ... & ... \\ 1 & 1 & ... & 0 & 0 \\ 1 & 1 & ... & 1 & 0 \end{pmatrix}.$$