

$$M = \left( \begin{array}{ccc|cc} & \overset{N}{1} & \overset{N}{2} & \overset{N}{3} & 4 & 5 \\ \hline 1 & 2 & 3 & 9 & 10 & \\ 6 & 7 & 8 & & & \\ 11 & 12 & 13 & & & \\ \hline 16 & 17 & 18 & 19 & 20 & \end{array} \right) \xrightarrow{\text{Transpose}} M^T = \left( \begin{array}{ccc|cc} & \overset{N^T}{1} & \overset{N^T}{6} & \overset{N^T}{11} & 16 & \\ \hline 1 & 6 & 11 & 16 & & \\ 2 & 7 & 12 & 17 & & \\ 3 & 8 & 13 & 18 & & \\ \hline 4 & 9 & 14 & 19 & & \\ 5 & 10 & 15 & 20 & & \end{array} \right)$$