

$$\begin{array}{c} n \\ \left\{ \begin{array}{c} \overbrace{\begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \square & X & \square \\ \hline \square & \square & \square \\ \hline \end{array} }^n \\ \hline \end{array} \right\} = \text{mat} \left(\begin{array}{c} \overbrace{\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \end{array} }^{n^2} \\ \hline \end{array} \right)
 \end{array}$$

$$\text{vec} \left(\begin{array}{c} \overbrace{\begin{array}{|c|c|c|} \hline \square & \square & \square \\ \hline \square & X & \square \\ \hline \square & \square & \square \\ \hline \end{array} }^n \\ \hline \end{array} \right) = \begin{array}{c} \overbrace{\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \end{array} }^{n^2} \\ \hline \end{array} \begin{array}{c} \square \\ X \\ \square \\ \square \\ \square \\ \square \\ \square \\ \square \\ \square \end{array}$$