$$\begin{pmatrix} x_{1,1} & x_{1,2} & \dots & x_{1,n} \\ x_{2,1} & x_{2,2} & \dots & x_{2,n} \\ \dots & & & \\ y_{m,1} & y_{m,2} & \dots & y_{m,n} \\ y_{1,1} & y_{1,2} & \dots & y_{1,n} \\ y_{2,1} & y_{2,2} & \dots & y_{2,n} \\ \dots & & & \\ y_{m,1} & y_{m,2} & \dots & y_{m,n} \end{pmatrix} = \begin{pmatrix} \mathbf{v}_{x,1}^T \\ \mathbf{v}_{x,2}^T \\ \dots \\ \mathbf{v}_{x,m}^T \\ \mathbf{v}_{y,1}^T \\ \mathbf{v}_{y,2}^T \\ \dots \\ \mathbf{v}_{y,m}^T \end{pmatrix} \begin{pmatrix} \mathbf{X}_1 & \mathbf{X}_2 & \dots & \mathbf{X}_n \end{pmatrix}$$