

$$Z^{\top} \Theta = \begin{bmatrix} \text{red square} \\ \text{purple square} \\ \vdots \\ \text{blue square} \end{bmatrix} = \begin{bmatrix} \text{red } 1 + \text{red } 2 + \cdots + \text{red } K \\ \text{purple } 1 + \text{purple } 2 + \cdots + \text{purple } K \\ \vdots \\ \text{blue } 1 + \text{blue } 2 + \cdots + \text{blue } K \end{bmatrix}$$