

$$\begin{matrix}
 \mathbf{y} \\
 \left[\begin{array}{c} 2.1 \\ 1.8 \\ 2.2 \\ 1.9 \\ 3.5 \\ 3.2 \\ 3.4 \\ 3.1 \\ 2.9 \\ 3.1 \\ 2.8 \\ 3.2 \\ 4.2 \\ 3.8 \\ 4.1 \\ 3.9 \end{array} \right]
 \end{matrix}
 =
 \begin{matrix}
 \mathbf{X} \\
 \left[\begin{array}{cccc}
 Int & c_1 & c_2 & c_3 \\
 1 & 0 & 0 & 0 \\
 1 & 0 & 0 & 0 \\
 1 & 0 & 0 & 0 \\
 1 & 0 & 0 & 0 \\
 1 & 1 & 0 & 0 \\
 1 & 1 & 0 & 0 \\
 1 & 1 & 0 & 0 \\
 1 & 1 & 0 & 0 \\
 1 & 0 & 1 & 0 \\
 1 & 0 & 1 & 0 \\
 1 & 0 & 1 & 0 \\
 1 & 0 & 1 & 0 \\
 1 & 0 & 0 & 1 \\
 1 & 0 & 0 & 1 \\
 1 & 0 & 0 & 1 \\
 1 & 0 & 0 & 1
 \end{array} \right]
 \end{matrix}
 \mathbf{b} \\
 \left[\begin{array}{c} b_0 \\ b_1 \\ b_2 \\ b_3 \end{array} \right]
 \rightarrow \text{HR} \\
 \rightarrow \text{Sales} \\
 \rightarrow \text{Eng} \\
 \rightarrow \text{Mkt}$$

HR has all 0s
 (reference group)
 Each other group
 has exactly one 1