

$$\begin{array}{cccc}
 a & b & c & d \\
 \left[\begin{array}{ccc|c}
 1 & 1 & 1 & 114 \\
 1 & 1 & 0 & 124 \\
 0 & 1 & 1 & 120 \\
 1 & 1 & 1 & 154
 \end{array} \right] & \xrightarrow{R_1 \rightarrow R_4 - R_1, R_2 \rightarrow R_4 - R_2, R_3 \rightarrow R_4 - R_3} & \left[\begin{array}{ccc|c}
 0 & 0 & 0 & 40 \\
 0 & 0 & 1 & 30 \\
 1 & 0 & 0 & 34 \\
 1 & 1 & 1 & 154
 \end{array} \right]
 \end{array}$$

$$R_4 \rightarrow R_4 - R_1 - R_2 - R_3$$

$$\rightarrow b = 154 - 34 - 30 - 40 = \text{50 students}$$