

Exemplarische Lösung eines 3,3- LGS

$$\begin{array}{lcl} \text{I} & 5x_1 + & x_2 - x_3 = -3 \text{ Tauschen} \\ \text{II} & x_1 + & 3x_2 + x_3 = 5 \text{ Von I und III} \\ \text{III} & x_1 - & 3x_2 - x_3 = -1 \end{array}$$

$$\begin{array}{lcl} \text{III} & x_1 - & 3x_2 - x_3 = -1 \\ \text{II} & x_1 + & 3x_2 + x_3 = 5 \text{ II-III} \\ \text{I} & 5x_1 + & x_2 - x_3 = -3 \text{ I-5 III} \end{array}$$

$$\begin{array}{lcl} \text{III} & x_1 - & 3x_2 - x_3 = -1 \\ \text{IIa} & & 6x_2 + 2x_3 = 6 \\ \text{Ia} & & 14x_2 + 4x_3 = 2 \text{ 3Ia-7IIa} \end{array}$$

$$\begin{array}{lcl} \text{III} & x_1 - & 3x_2 - x_3 = -1 \\ \text{IIa} & & 6x_2 + 2x_3 = 6 \\ \text{Ib} & & -2x_3 = -36 \text{ Ib}/(-2) \end{array}$$

$$\begin{array}{lcl} \text{III} & x_1 - & 3x_2 - x_3 = -1 \text{ III+Ic} \\ \text{IIa} & & 6x_2 + 2x_3 = 6 \text{ IIa-2Ic} \\ \text{Ic} & & x_3 = 18 \end{array}$$

$$\begin{array}{lcl} \text{IIIa} & x_1 - & 3x_2 = 17 \\ \text{IIb} & & 6x_2 = -30 \text{ IIb}/2 \\ \text{Ic} & & x_3 = 18 \end{array}$$

$$\begin{array}{lcl} \text{IIIa} & x_1 - & 3x_2 = 17 \text{ IIIa+IIc} \\ \text{IIc} & & 3x_2 = -15 \\ \text{Ic} & & x_3 = 18 \end{array}$$

$$\begin{array}{lcl} \text{IIIb} & x_1 & = 2 \\ \text{IIc} & & 3x_2 = -15 \text{ IIc}/3 \\ \text{Ic} & & x_3 = 18 \end{array}$$

$$\begin{array}{lcl} \text{IIIb} & x_1 & = 2 \\ \text{IId} & & x_2 = -5 \\ \text{Ic} & & x_3 = 18 \end{array}$$