

Modellierung 26.11.14

Notiztitel

S-Invarianten
 $V \cdot C = \begin{pmatrix} 0 & 0 \end{pmatrix}$

2.11.2014

$$\begin{array}{c} \begin{matrix} f_1 & m_1 & f_2 & m_2 \\ \hline v_1 & 1 & -1 & 0 & 0 \\ v_2 & -1 & 1 & 0 & 0 \\ c_1 & 0 & 0 & 1 & -1 \\ v_2 & 0 & 0 & -1 & 1 \\ s & -1 & 1 & -1 & 1 \end{matrix} \end{array}$$

$$\begin{array}{l} v_1 - v_2 \\ -v_1 + v_2 \end{array}$$

$$\begin{array}{l} -v_5 = 0 \\ +v_5 = 0 \end{array} \left| \begin{array}{l} v_1 = v_2 + v_5 \\ v_3 = v_4 + v_5 \end{array} \right.$$

$$\begin{array}{l} v_3 - v_4 - v_5 = 0 \\ -v_3 + v_4 + v_5 = 0 \end{array}$$

$$v = (v_2 + v_5, v_2, v_4 + v_5, v_4, v_5)$$

$$= v_2(1 \ 1 \ 0 \ 0 \ 0) + v_4(0 \ 0 \ 1 \ 1 \ 0) + v_5(1 \ 0 \ 1 \ 0 \ 1)$$

$$v_i \cdot m_i = m_1 + m_3 + m_5 = 0 \cdot m_2 = (1 \ 0 \ 1 \ 0 \ 1) \cdot \begin{pmatrix} 0 \\ 0 \\ 1 \\ 0 \\ 1 \end{pmatrix} = 1$$

Anm: auf v_1 und v_2 jeweils mind. 1 Marke

$$m_1 \geq 1, m_3 \geq 1 \Rightarrow 2 \leq m_1 + m_3 + m_5 = 1$$

Widerspruch! $\Rightarrow m_1 + m_3 = 1$

$$\begin{pmatrix} -1 & 0 & 1 & -1 & 0 & 1 \\ 0 & -1 & 1 & 0 & -1 & 1 \\ -1 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & -1 & 0 & 1 \\ 1 & -1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & -1 & 0 \\ 0 & 1 & -1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & -1 \end{pmatrix}$$

$$\begin{aligned} -v_1 - v_3 + v_5 &= 0 & | v_5 &= v_1 + v_3 \\ -v_2 - v_5 + v_7 &= 0 & | v_7 &= v_2 + v_5 \\ v_1 + v_2 + v_3 - v_7 &= 0 & | v_7 &= v_1 + v_2 + v_3 \\ -v_1 - v_4 + v_6 &= 0 & | v_6 &= v_1 + v_4 \\ -v_2 - v_6 + v_8 &= 0 & | v_8 &= v_2 + v_6 \\ v_1 + v_2 + v_4 - v_8 &= 0 & | v_8 &= v_1 + v_2 + v_4 \end{aligned}$$

$$v = (v_1, v_2, v_3, v_4, v_1 + v_3, v_1 + v_2 + v_3, v_1 + v_2 + v_4)$$

$$= v_1(1 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1) + v_2(0 \ 1 \ 0 \ 0 \ 0 \ 0 \ 1)$$

$$v_3(0 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1) + v_4(0 \ 0 \ 0 \ 1 \ 0 \ 1 \ 0)$$

$$m = (00001100)$$

$$v \cdot \vec{m}_0 = (1 \ 0 \ 0 \ 0 \ 1 \ 1 \ 1) \cdot \begin{pmatrix} 1 \\ 1 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix} = 1$$

$$v \cdot \vec{m}_1 = 2$$

$$v \cdot \vec{m}_0 \neq v \cdot \vec{m}_1$$

$\Rightarrow m$ ist nicht erreichbar!

