Here's the right way to write the rep of B_6

$\alpha = \frac{\sqrt{t}}{1+t}$

$$\sigma_1 \to \begin{pmatrix} -1 & 0 & 0 & 0 & \sqrt{t} \\ 0 & -1 & \sqrt{t} & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & \sqrt{t} & -1 & 0 \\ 0 & 0 & 0 & 0 & t \end{pmatrix} \qquad e_1 = \begin{pmatrix} 0 & 0 & 0 & 0 & \alpha \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix} = \frac{1}{t+1}(\sigma_1 + 1)$$

$$\sigma_2 \to \begin{pmatrix} t & 0 & 0 & 0 & 0 \\ 0 & t & 0 & 0 & 0 \\ 0 & \sqrt{t} & -1 & 0 & 0 \\ \sqrt{t} & 0 & 0 & -1 & 0 \\ \sqrt{t} & 0 & 0 & 0 & -1 \end{pmatrix} \qquad e_2 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & \alpha & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \end{pmatrix}$$

$$\sigma_3 \to \begin{pmatrix} -1 & 0 & 0 & \sqrt{t} & 0 \\ 0 & -1 & \sqrt{t} & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & 0 & t & 0 \\ 0 & 0 & \sqrt{t} & 0 & -1 \end{pmatrix} \qquad e_3 = \begin{pmatrix} 0 & 0 & 0 & \alpha & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & \alpha & 0 & 0 \end{pmatrix}$$

$$\sigma_4 \to \begin{pmatrix} t & 0 & 0 & 0 & 0 \\ \sqrt{t} & -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 & \sqrt{t} \\ \sqrt{t} & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & t \end{pmatrix} \qquad e_4 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & \alpha \\ \alpha & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

$$\sigma_5 \to \begin{pmatrix} -1 & \sqrt{t} & 0 & 0 & 0 \\ 0 & t & 0 & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & \sqrt{t} & -1 & 0 \\ 0 & 0 & \sqrt{t} & 0 & -1 \end{pmatrix} \qquad e_5 = \begin{pmatrix} 0 & \alpha & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \end{pmatrix}$$

let's be ambitious - can you even get rid of $\sqrt{t}$?

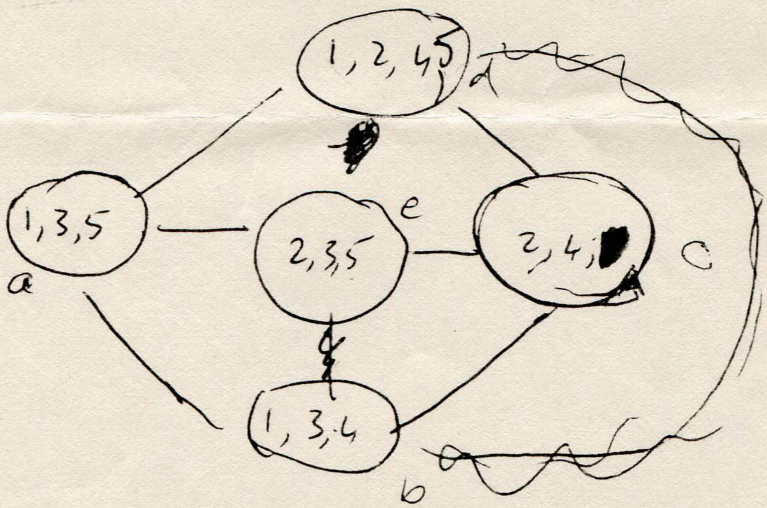
- probably

$$\begin{array}{ccccc} a & b & c & d & e \end{array}$$
$$\begin{pmatrix} 1+q & 0 & 0 & 0 & 0 \\ 0 & 1+q & 0 & 0 & 0 \\ 0 & \sqrt{q} & 0 & \sqrt{q} & 0 \\ 0 & q & 0 & 1+q & 0 \\ \sqrt{q} & 0 & 0 & 0 & 0 \end{pmatrix}$$

1 3.

0

$$\binom{5}{2} = \frac{5 \cdot 4}{2}$$



$$\alpha = \frac{\sqrt{q}}{1+q}$$

$$e_1 = \begin{pmatrix} 0 & 0 & 0 & 0 & \alpha \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

$$e_4 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & \alpha \\ \alpha & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

$$e_2 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & \alpha & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \\ \alpha & 0 & 0 & 0 & 0 \end{pmatrix}$$

$$e_5 = \begin{pmatrix} 0 & \alpha & 0 & \alpha & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & \alpha & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

$$e_3 = \begin{pmatrix} 0 & 0 & 0 & \alpha & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & \alpha & 0 & 0 \end{pmatrix}$$

$$e_5 = \begin{pmatrix} 0 & \alpha & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \\ 0 & 0 & \alpha & 0 & 0 \end{pmatrix}$$

yes better rep of $M_{0,6}$

$$e_1 = \begin{pmatrix} 0 & 0 & 0 & 0 & \frac{t}{1+t} \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix} \qquad g_1 = \begin{pmatrix} -1 & 0 & 0 & 0 & t \\ 0 & -1 & 1 & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & 1 & -1 & 0 \\ 0 & 0 & 0 & 0 & t \end{pmatrix}$$

$$e_2 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & \frac{t}{1+t} & 0 & 0 & 0 \\ \frac{1}{1+t} & 0 & 0 & 0 & 0 \\ \frac{1}{1+t} & 0 & 0 & 0 & 0 \end{pmatrix} \qquad g_2 = \begin{pmatrix} t & 0 & 0 & 0 & 0 \\ 0 & t & 0 & 0 & 0 \\ 0 & t & -1 & 0 & 0 \\ 1 & 0 & 0 & -1 & 0 \\ 1 & 0 & 0 & 0 & -1 \end{pmatrix}$$

$$e_3 = \begin{pmatrix} 0 & 0 & 0 & \frac{t}{1+t} & 0 \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \end{pmatrix} \qquad g_3 = \begin{pmatrix} -1 & 0 & 0 & t & 0 \\ 0 & -1 & 1 & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & 0 & t & 0 \\ 0 & 0 & 1 & 0 & -1 \end{pmatrix}$$

$$e_4 = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ \frac{1}{1+t} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & \frac{t}{1+t} \\ \frac{1}{1+t} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix} \qquad g_4 = \begin{pmatrix} t & 0 & 0 & 0 & 0 \\ 1 & -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 & t \\ 1 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & t \end{pmatrix}$$

$$e_5 = \begin{pmatrix} 0 & \frac{t}{1+t} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \\ 0 & 0 & \frac{1}{1+t} & 0 & 0 \end{pmatrix} \qquad g_5 = \begin{pmatrix} -1 & t & 0 & 0 & 0 \\ 0 & t & 0 & 0 & 0 \\ 0 & 0 & t & 0 & 0 \\ 0 & 0 & 1 & -1 & 0 \\ 0 & 0 & 1 & 0 & -1 \end{pmatrix}$$

$e_i = \frac{1}{1+t}(g_i+1)$

$g_i = (1+t)e_i - 1$

$\bar{g}_i = (1+\bar{t})e_i - 1$

$$\bar{g}_1 = \begin{pmatrix} -1 & 0 & 0 & 0 & 1 \\ 0 & -1 & \bar{t} & 0 & 0 \\ 0 & 0 & \bar{t} & 0 & 0 \\ 0 & 0 & \bar{t} & -1 & 0 \\ 0 & 0 & 0 & 0 & \bar{t} \end{pmatrix}$$

$$\bar{g}_2 = \begin{pmatrix} \bar{t} & 0 & 0 & 0 & 0 \\ 0 & \bar{t} & 0 & 0 & 0 \\ 0 & 1 & -1 & 0 & 0 \\ \bar{t} & 0 & 0 & -1 & 0 \\ \bar{t} & 0 & 0 & 0 & -1 \end{pmatrix}$$

$$\bar{g}_3 = \begin{pmatrix} -1 & 0 & 0 & 1 & 0 \\ 0 & -1 & \bar{t} & 0 & 0 \\ 0 & 0 & \bar{t} & 0 & 0 \\ 0 & 0 & 0 & \bar{t} & 0 \\ 0 & 0 & \bar{t} & 0 & -1 \end{pmatrix}$$

$$\bar{g}_4 = \begin{pmatrix} \bar{t} & 0 & 0 & 0 & 0 \\ \bar{t} & -1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 & 0 \\ \bar{t} & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & \bar{t} \end{pmatrix}$$

$$\bar{g}_5 = \begin{pmatrix} -1 & 1 & 0 & 0 & 0 \\ 0 & \bar{t} & 0 & 0 & 0 \\ 0 & 0 & \bar{t} & 0 & 0 \\ 0 & 0 & \bar{t} & -1 & 0 \\ 0 & 0 & \bar{t} & 0 & -1 \end{pmatrix}$$

$$\bar{g}_2 = (\bar{t}+1)\, e_2 - 1$$

$$(\bar{t}+1)\left(\frac{1}{1+t}\right) = \frac{\bar{t}(1+t)}{1+t} = \bar{t}$$

$$(\bar{t}+1)\left(\frac{t}{1+t}\right) = 1$$