$$= (a,b,c)\begin{pmatrix} 2 & 1 & 2 \\ 1 & 2 & 2 \\ 2 & 2 & 3 \end{pmatrix}$$

and $\theta^1 = (1,0,0)^T$

$$(a,b,c) = (1,0,0)\begin{pmatrix} 2 & 1 & 2 \\ 1 & 2 & 2 \\ 2 & 2 & 3 \end{pmatrix}^{-1}$$

with similar expressions to find θ^2 and θ^3 i

$$\begin{pmatrix} 2 & 1 & 2 & 1 & 0 & 0 \\ 1 & 2 & 2 & 0 & 1 & 0 \\ 2 & 2 & 3 & 0 & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & \frac{1}{2} & 1 & \frac{1}{2} & 0 & 0 \\ 1 & 2 & 2 & 0 & 1 & 0 \\ 2 & 2 & 3 & 0 & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & \frac{1}{2} & 1 & \frac{1}{2} & 0 & 0 \\ 0 & 3/2 & 1 & -\frac{1}{2} & 1 & 0 \\ 0 & 1 & 1 & -1 & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & \frac{1}{2} & 1 & \frac{1}{2} & 0 & 0 \\ 0 & 1 & 2/3 & -\frac{1}{3} & 2/3 & 0 \\ 0 & 1 & 1 & -1. & 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 0 & 2/3 & 2/3 & -\frac{1}{3} & 0 \\ 0 & 1 & 2/3 & -\frac{1}{3} & 2/3 & 0 \\ 0 & 0 & 1/3 & -2/3 & -2/3 & 1 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 0 & 2 & 1 & -2 \\ 0 & 1 & 2 & -1 & 2 & -2 \\ 0 & 0 & 1 & -2 & -2 & 3 \end{pmatrix}$$

$$\begin{pmatrix} 1 & 0 & 0 & 2 & 1 & -2 \\ 0 & 1 & 0 & 1 & 2 & -2 \\ 0 & 0 & 1 & -2 & -2 & 3 \end{pmatrix}$$

so $(a,b,c) = (1,0,0)\begin{pmatrix} 2 & 1 & -2 \\ 1 & 2 & -2 \\ -2 & -2 & 3 \end{pmatrix}$