$$\begin{bmatrix} \cos\theta_1 \cdot \cos\theta_2 + (-\sin\theta_1 \cdot \sin\theta_2) & -\sin\theta_2 \cos\theta_1 + (-\sin\theta_1 \cos\theta_2) & l_1 \cos\theta_1 \\ \sin\theta_1 \cdot \cos\theta_2 + \cos\theta \cdot \sin\theta_2 & -\sin\theta_1 \sin\theta_2 + \cos\theta_1 \cos\theta_2 & l_1 \sin\theta_1 \\ 0 & 0 & 1 \end{bmatrix}$$

dari identitas

$$\begin{bmatrix} \cos(\theta_1+\theta_2) & -\sin(\theta_1+\theta_2) & l_1\cos\theta_1 \\ \sin(\theta_1+\theta_2) & \cos(\theta_1+\theta_2) & l_1\sin\theta_1 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & l_2 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{matrix} \sin(\theta_1+\theta_2) = \sin\theta_1\cos\theta_2 + \sin\theta_2\cos\theta_1 \\ \cos(\theta_1+\theta_2) = \cos\theta_1\cos\theta_2 - \sin\theta_1\sin\theta_2 \end{matrix}$$

$$H^0_4 \cdot \begin{bmatrix} \cos(\theta_1+\theta_2) & -\sin(\theta_1+\theta_2) & l_2\cos(\theta_1+\theta_2) + l_1\cos\theta_1 \\ \sin(\theta_1+\theta_2) & \cos(\theta_1+\theta_2) & l_2\sin(\theta_1+\theta_2) + l_1\sin\theta_1 \\ 0 & 0 & 1 \end{bmatrix}$$

Sehingga

$$H^0_4 \begin{bmatrix} \cos(\theta_1+\theta_2) & -\sin(\theta_1+\theta_2) & l_1\cos\theta_1 + l_2\cos(\theta_1+\theta_2) \\ \sin(\theta_1+\theta_2) & \cos(\theta_1+\theta_2) & l_1\sin\theta_1 + l_1\sin(\theta_1+\theta_2) \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_1^0 = \begin{bmatrix} \cos\theta_1 & -\sin\theta_1 & 0 \\ \sin\theta_1 & \cos\theta_1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_2^1 = \begin{bmatrix} 1 & 0 & l_1 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_2^2 = \begin{bmatrix} \cos\theta_2 & -\sin\theta_2 & 0 \\ \sin\theta_2 & \cos\theta_2 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_4^3 = \begin{bmatrix} 1 & 0 & l_2 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_4^0 = H_1^0 \cdot H_2^1 \cdot H_3^2 \cdot H_4^3$$

$$H_2^0 = \begin{bmatrix} \cos\theta_1 & -\sin\theta_1 & 0 \\ \sin\theta_1 & \cos\theta_1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & l_1 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$= \begin{bmatrix} \cos\theta_1 & -\sin\theta_1 & l_1\cos\theta \\ \sin\theta_1 & \cos\theta_1 & l_1\sin\theta \\ 0 & 0 & 1 \end{bmatrix}$$

$$H_3^0 = \begin{bmatrix} \cos\theta_1 & -\sin\theta_1 & l_1\cos\theta \\ \sin\theta_1 & \cos\theta_1 & l_1\sin\theta \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \cos\theta_2 & -\sin\theta_2 & 0 \\ \sin\theta_2 & \cos\theta_2 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$\begin{bmatrix} \cos\theta_1 \cdot \cos\theta_2 + (-\sin\theta_1 \cdot \sin\theta_2) \end{bmatrix}$$