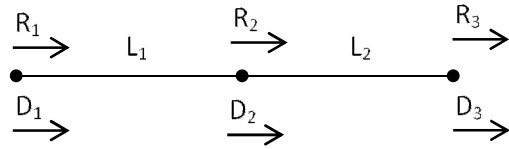


**Opgave 1:**



Figur 1. To sammenhængende stangelementer.

Opsæt Stivhedmatricen for stangsystemet som ses på Figur 1.

$$\begin{bmatrix} [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] \end{bmatrix} \cdot \begin{Bmatrix} D_1 \\ D_2 \\ D_3 \end{Bmatrix} = \begin{Bmatrix} R_1 \\ R_2 \\ R_3 \end{Bmatrix}$$

**Opgave 2:**



Figur 2. Bjælkeelement.

Opsæt stivhedmatricen for bjælkeelementet på Figur 2.

$$\begin{bmatrix} [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \\ [ ] & [ ] & [ ] & [ ] & [ ] & [ ] \end{bmatrix} \cdot \begin{Bmatrix} N_1 \\ V_1 \\ \theta_1 \\ N_2 \\ V_2 \\ \theta_2 \end{Bmatrix} = \begin{Bmatrix} R_{N1} \\ R_{V1} \\ R_{\theta1} \\ R_{N2} \\ R_{V2} \\ R_{\theta2} \end{Bmatrix}$$