






Принятые обозначения

- t := 

- [см], толщина
- E := 

- [MN/cm2], модуль упругости
- ν := 

- коэфф Пуассона
- α := 

- [1/°C] коэфф теплового расширения
- θ := 

- [°C] перепад температур
- node - список узлов, [см]
- elem - список элементов

Параметры Ламе

$\lambda := \frac{E \cdot \nu}{(1 + \nu) \cdot (1 - 2 \cdot \nu)}$

$\mu := \frac{E}{2(1 + \nu)}$

Варианты заданий

$$\text{node} := \begin{pmatrix} -4.0 & 0 \\ -2.0 & 0 \\ -5.0 & 1.7 \\ -3.0 & 1.7 \\ -1.0 & 1.7 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 0 & 1 & 3 \\ 1 & 4 & 3 \\ 0 & 3 & 2 \end{pmatrix}$$

$$\text{load} := \begin{pmatrix} 2 & 0 & -3 \cdot 10^{-3} \\ 3 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$$

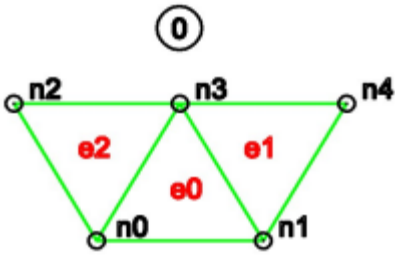
t := 1

ν := 0.3

E := 20.6

α := 11.3e-06

θ := 100



$$\text{node} := \begin{pmatrix} -3.7 & 5.1 \\ -1.7 & 5.1 \\ -4.7 & 6.8 \\ -2.7 & 6.8 \\ -0.7 & 6.8 \\ -3.7 & 8.5 \\ -1.7 & 8.5 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 0 & 3 & 2 \\ 0 & 1 & 3 \\ 1 & 4 & 3 \\ 3 & 4 & 6 \\ 3 & 6 & 5 \\ 3 & 5 & 2 \end{pmatrix}$$

$$\text{load} := \begin{pmatrix} 5 & 0 & -3 \cdot 10^{-3} \\ 6 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$$

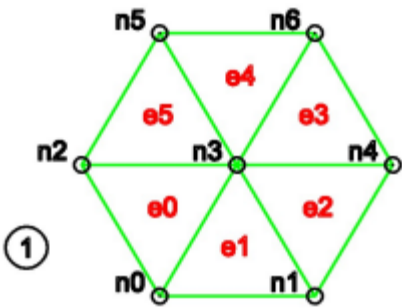
t := 1

E := 30.6

ν := 0.3

α := 11.3e-06

θ := 100



$$\text{node} := \begin{pmatrix} 2 & 5.1 \\ 4 & 5.1 \\ 1 & 6.8 \\ 3 & 6.8 \\ 5 & 6.8 \\ 7 & 6.8 \\ 4 & 8.5 \\ 6 & 8.5 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 0 & 3 & 2 \\ 0 & 1 & 3 \\ 1 & 4 & 3 \\ 3 & 4 & 6 \\ 4 & 7 & 6 \\ 4 & 5 & 7 \end{pmatrix}$$

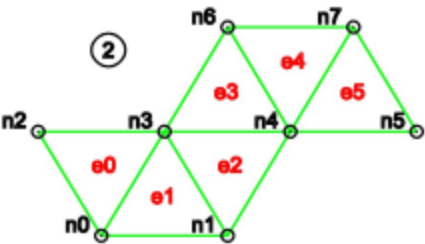
E := 10.6

ν := 0.3

t := 1

α := 11.3e-06

θ := 100



$$\text{load} := \begin{pmatrix} 6 & 0 & -3 \cdot 10^{-3} \\ 7 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$$

$$\text{node} := \begin{pmatrix} 11.7 & 5.1 \\ 13.7 & 5.1 \\ 8.7 & 6.8 \\ 10.7 & 6.8 \\ 12.7 & 6.8 \\ 14.7 & 6.8 \\ 9.7 & 8.5 \\ 11.7 & 8.5 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 4 & 3 & 0 \\ 4 & 0 & 1 \\ 4 & 1 & 5 \\ 3 & 6 & 2 \\ 3 & 7 & 6 \\ 3 & 4 & 7 \end{pmatrix}$$

$$\underline{\underline{E}} := 15.6$$

$$\underline{\underline{\nu}} := 0.3$$

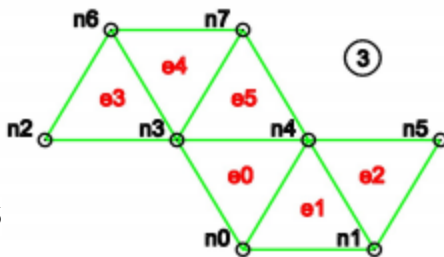
$$\underline{\underline{t}} := 1$$

$$\underline{\underline{\alpha}} := 11.3\text{e-}06$$

$$\underline{\underline{\theta}} := 100$$

$$\text{load} := \begin{pmatrix} 2 & 0 & -3 \cdot 10^{-3} \\ 3 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$$



$$\text{node} := \begin{pmatrix} 6 & 0 \\ 1 & 1.7 \\ 3 & 1.7 \\ 5 & 1.7 \\ 7 & 1.7 \\ 2 & 3.4 \\ 4 & 3.4 \\ 6 & 3.4 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 3 & 0 & 4 \\ 3 & 4 & 7 \\ 3 & 7 & 6 \\ 3 & 6 & 2 \\ 2 & 6 & 5 \\ 2 & 5 & 1 \end{pmatrix}$$

$$\underline{\underline{E}} := 17.6$$

$$\underline{\underline{\nu}} := 0.3$$

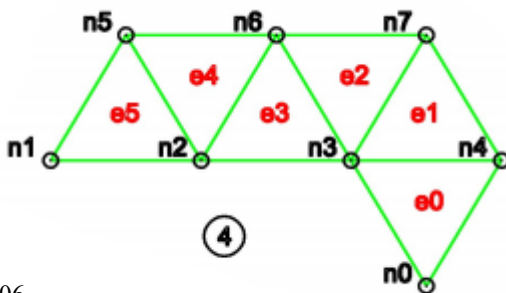
$$\underline{\underline{t}} := 1$$

$$\underline{\underline{\alpha}} := 11.3\text{e-}06$$

$$\underline{\underline{\theta}} := 100$$

$$\text{load} := \begin{pmatrix} 5 & 0 & -3 \cdot 10^{-3} \\ 7 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \end{pmatrix}$$



$$\text{node} := \begin{pmatrix} 9.7 & 0 \\ 8.7 & 1.7 \\ 10.7 & 1.7 \\ 12.7 & 1.7 \\ 14.7 & 1.7 \\ 9.7 & 3.4 \\ 11.7 & 3.4 \\ 13.7 & 3.4 \end{pmatrix}$$

$$\text{elem} := \begin{pmatrix} 2 & 1 & 0 \\ 2 & 5 & 1 \\ 2 & 6 & 5 \\ 2 & 3 & 6 \\ 3 & 4 & 7 \\ 3 & 7 & 6 \end{pmatrix}$$

$$\underline{\underline{E}} := 12.6$$

$$\underline{\underline{\nu}} := 0.3$$

$$\underline{\underline{t}} := 1$$

$$\underline{\underline{\alpha}} := 11.3\text{e-}06$$

$$\underline{\underline{\theta}} := 100$$

$$\text{load} := \begin{pmatrix} 5 & 0 & -3 \cdot 10^{-3} \\ 6 & 0 & -3 \cdot 10^{-3} \end{pmatrix}$$

$$\text{bound} := \begin{pmatrix} 0 & 0 & 0 \\ 4 & 0 & 0 \end{pmatrix}$$

