Total Potential Energy – Example 6

The global force-displacement equations are:

$$\begin{bmatrix} 1000 & 0 & -1000 & 0 \\ 0 & 3000 & 0 & -3000 \\ -1000 & 0 & 3000 & -2000 \\ 0 & -3000 & -2000 & 5000 \end{bmatrix} \begin{Bmatrix} u_1 \\ u_2 \\ u_3 \\ u_4 \end{Bmatrix} = \begin{Bmatrix} F_{1x} \\ F_{2x} \\ F_{3x} \\ F_{4x} \end{Bmatrix}$$

The above equations are identical to those we obtained through the direct stiffness method.

Homework Problems

1. Do problems ***2.4***, ***2.10***, and ***2.22*** on pages 66 - 71 in your textbook “A First Course in the Finite Element Method” by D. Logan.

End of Chapter 2