

In-class Exercise Week #2: Matrix structural analysis in a programming environment

Exercise #1:

For the first exercise of the first week, write a basic program in any programming language that computes the magnitude and direction of the force P at point a required to displace that point a vertically downward 5mm without any horizontal displacement. Compute the member forces and the deflected shape of the truss frame shown in the figure.

- Assume that $E = 200 \text{ GPa}$.
- Assume a linear static analysis.

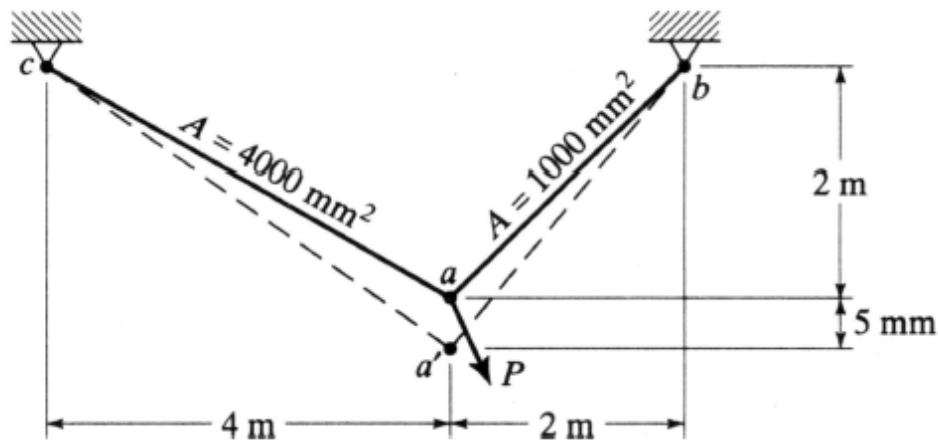


Figure 1. Schematic representation of the truss frame when subjected to the force P