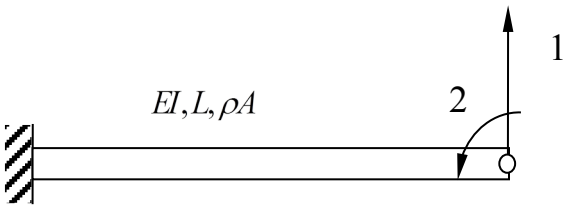

1. Determinate the stiffness matrix and consistent mass matrix of the cantilever beam.
   - Evaluate eigenvalues of the the system.
   - Evaluate lowest eigenvalue by the inverse vector iteration with the starting vector $\phi = \begin{pmatrix} 1 & 1/L \end{pmatrix}^T$.
   - At every iteration evaluate the estimate for eigenvalue by Rayleigh's quotient .
   - Repeat calculations by shifting $\omega_0 = 35\sqrt{EI/\rho AL^4}$