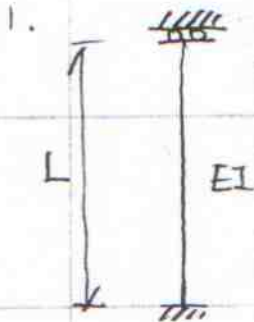


Homework #3

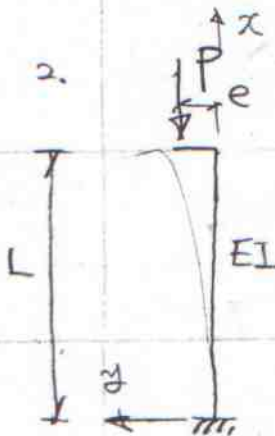


P_{cr1}, P_{cr2} by 4th Order Diff. Eqs.

Ratio of P_{cr2}/P_{cr1} ($=4$)

K-factor ($=1$)

Mode Shape



by Second-Order Diff. Eqs

$$y_{max} = (\sec kL - 1)e$$

$$M_{max} = P \sec kL$$

$$\delta_{max} = e \sec kL$$

$$A_F = \sec kL = \sec \left(\frac{\pi}{2} \sqrt{\frac{P}{P_{cr}}} \right) = \sec \left(\pi \sqrt{\frac{P}{P_{cr}}} \right)$$

$A_F \sim P/P_{cr}$ Diagram

$P/P_{cr} \sim \delta_{max}/L$ Diagram