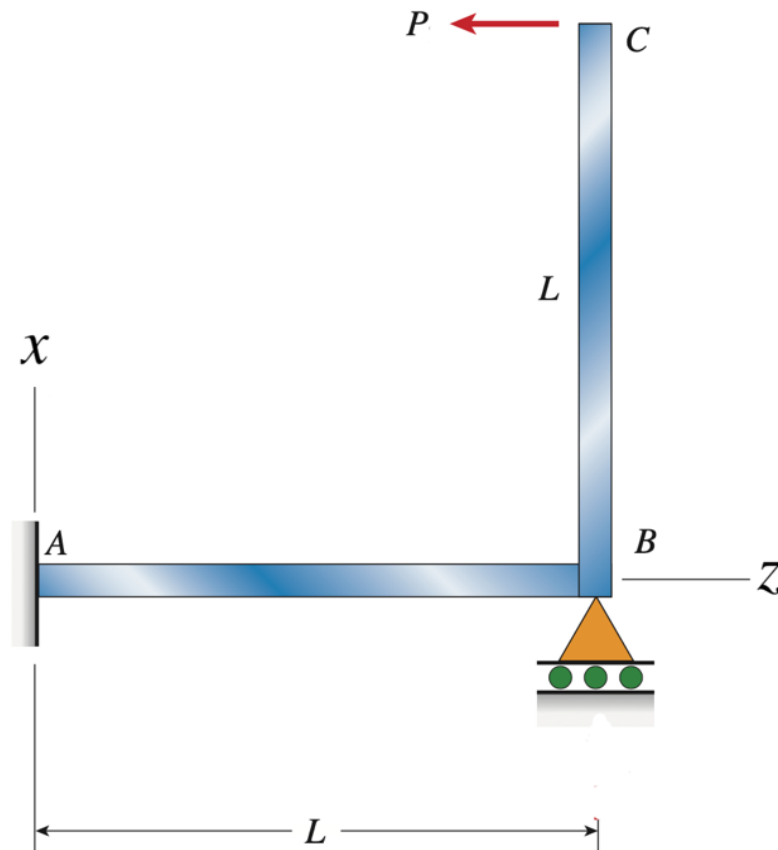


ME 202 Strength of Materials Spring 2023
Tutorial 9 27 Mar 2023

1. Calculate the buckling load for a fixed-fixed beam of length L and flexural rigidity EI using the second order differential equation method. Repeat the exercise using the fourth order differential equation method.
2. Consider the bent beam ABC shown in the following figure. Find the maximum force P that can be applied at C without buckling.



3. Consider a simply supported beam of length L and flexural rigidity EI . For a certain application, we need to double the load carrying capacity of this beam. We will accomplish this by connecting torsion springs of equal stiffness at each end. Find the stiffness (Nm/rad) of each spring.