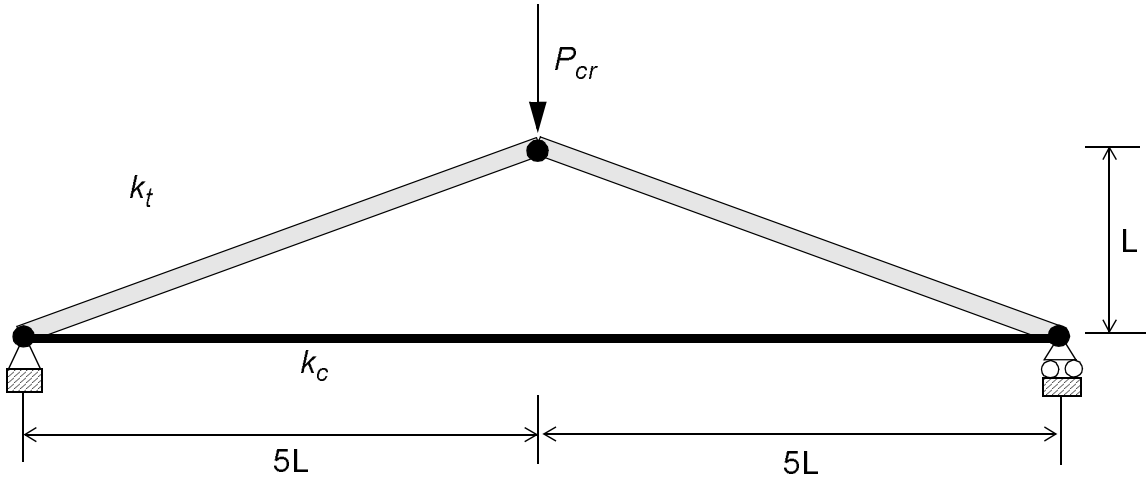# Problem Set 6

Problem 6.1

Determine P_{cr} (critical load) for the structure shown.
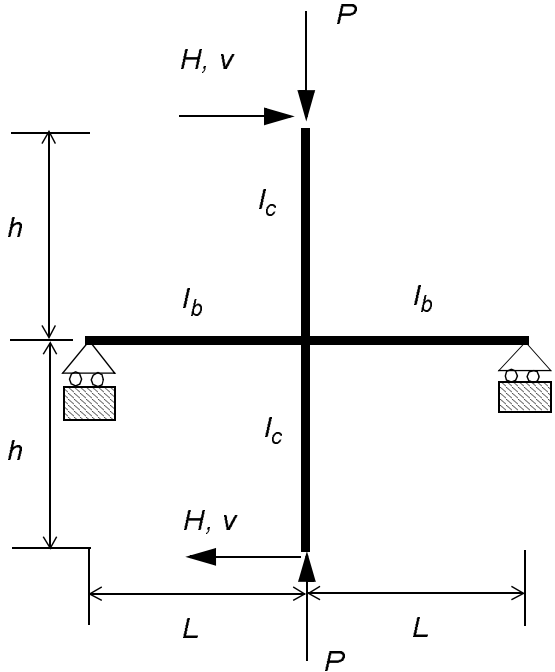
$$k_c = \frac{k_t}{5}$$

Problem 6.2
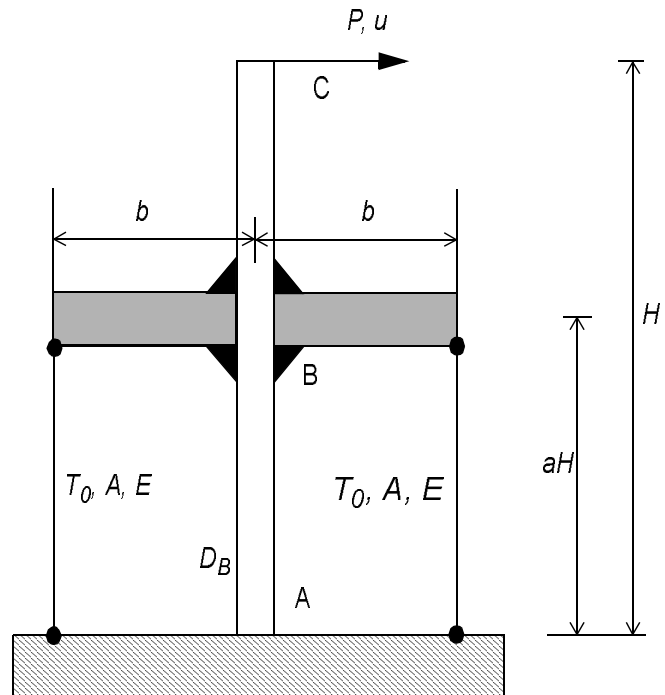
Determine the expression for H in terms of v, P and the structural parameters.

Note that the loading is anti-symmetrical.

Problem 6.3

Determine u considering the $P - \delta$ effect on the outriggered beam.

Problem 6.4

A wind loaded tall building can be modelled as a cantilever beam with a triangular lateral load and a uniform distributed vertical load p. Determine M_A and v_B as a function of D_B, D_S, p, b and H.

Compare to the linear approach. Discuss.

Neglect transverse shear deformation (set $D_T = \infty$) Why ?