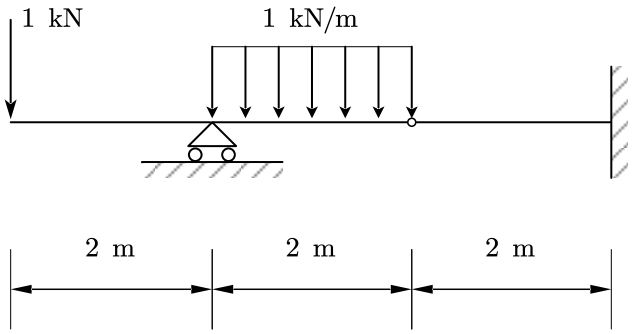
University of Maryland Fall 2017

ENCE353: Introduction to Structural Analysis

In-Class Problems #2 Solution

For the following structure:



(1) Determine the structure as statically determinate, indeterminate or unstable. If it is statically determinate, point out stable or not; if it is statically indeterminate, point out the degree of indeterminacy.

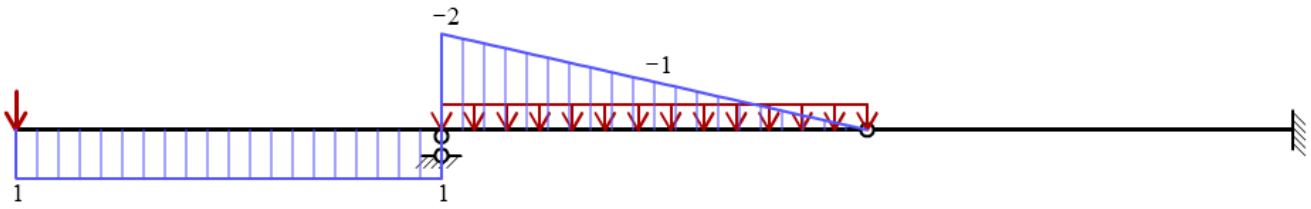
$$r = 6, n = 2$$

$$r = 3n \Rightarrow \text{statically determinate}$$

$$\text{No possible movement can be developped} \Rightarrow \text{stable}$$

(2) Draw the bending moment diagram.

Shear Force Diagram:



Bending Moment Diagram: