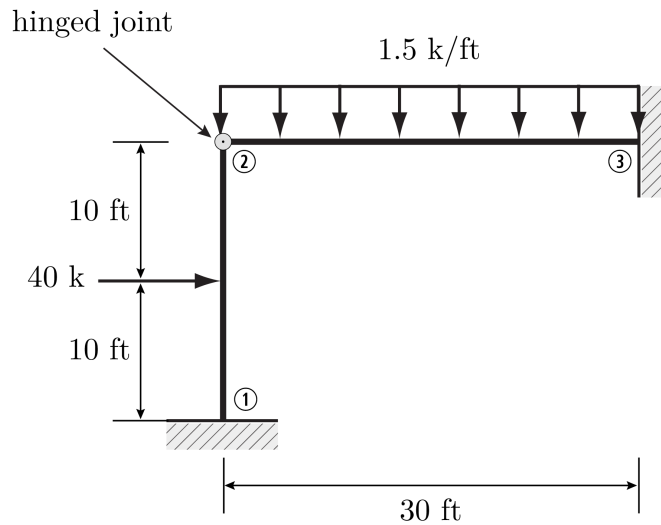


## CE 525 Fall 2024 HW#7

Due Tuesday, November 19, at the beginning of class

1. For the plane frame shown determine joint displacements, local member-end forces, and support reactions using the Matrix Displacement Method:

- (10 pts) By implementing Approach 1 (elimination of rotational DOFs) via computer programming
- (10 pts) By implementing Approach 2 (retention of one rigid connection) via computer programming
- (10 pts) Using SAP2000



for all members:  
 $E = 29,000$  ksi  
 $A = 10.3$  in.<sup>2</sup>  
 $I = 510$  in.<sup>4</sup>