

## Homework #6

Assigned on Friday, Mar 06; due on Tuesday, Mar 17

Find the collapse load  $P_u$  for the frame shown in **Figure 1** using mechanism method. Assume idealized elastic-perfectly plastic moment-curvature and axial force-deformation behavior for members. Neglect the axial loading effect in flexural members. Use  $M_p = 500$  kft for all members. Draw the final bending moment diagram.

Also use the unit incremental load method to check the answer based on the mechanism method. Use DRAIN-2DX/OpenSEES to solve the structure for the incremental load method. You don't need to solve each intermediate step separately. Submit your DRAIN-2DX/OpenSEES input files and selected output.

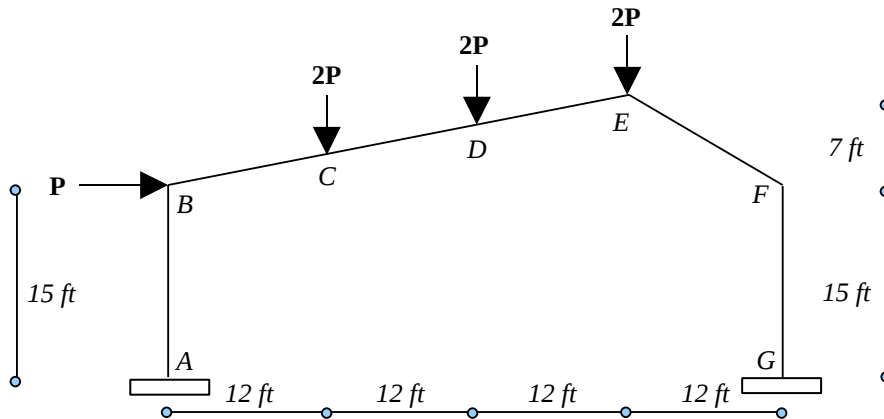


Figure 1. Loading on the gable frame.