CVEN 483 – ETABS Work Assignments (due 9/23)

1. Find lateral stiffness for each 2D frame = lateral force/lateral displacement. Also compare moment, shear and axial load diagrams.

2. Compare lateral stiffness (1 kip / \( \Delta_2 \)) with and without end offset, add a 6” concrete floor plate (use 2 plates connected to the joints), and a rigid diaphragm. Compare lateral displacements, and moment, shear, and axial load diagrams.

3. Column spacing = 30 ft, Story height = 15 ft
   Beams and columns – 12x24; 6” RC two-way slab (use plates)
   Superimposed dead load = 25 psf
   Cladding = 20 psf (or 20 psf * 15 ft = 300 lb/ft along exterior beam length)
   Live load = 50 psf (2 checkerboard patterns and live load everywhere)
   Use 1.2D + 1.6L and find the axial, shear, and moment (3D) envelopes (all members).
   Compare sway in each direction under same 1 kip load applied to the top of the middle frame. Move the 1 kip load to the exterior frame and note what happens.