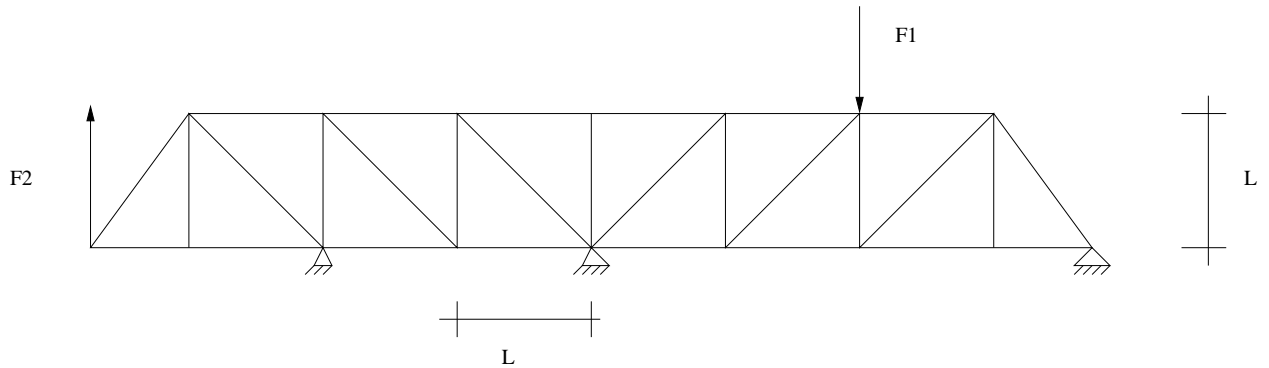
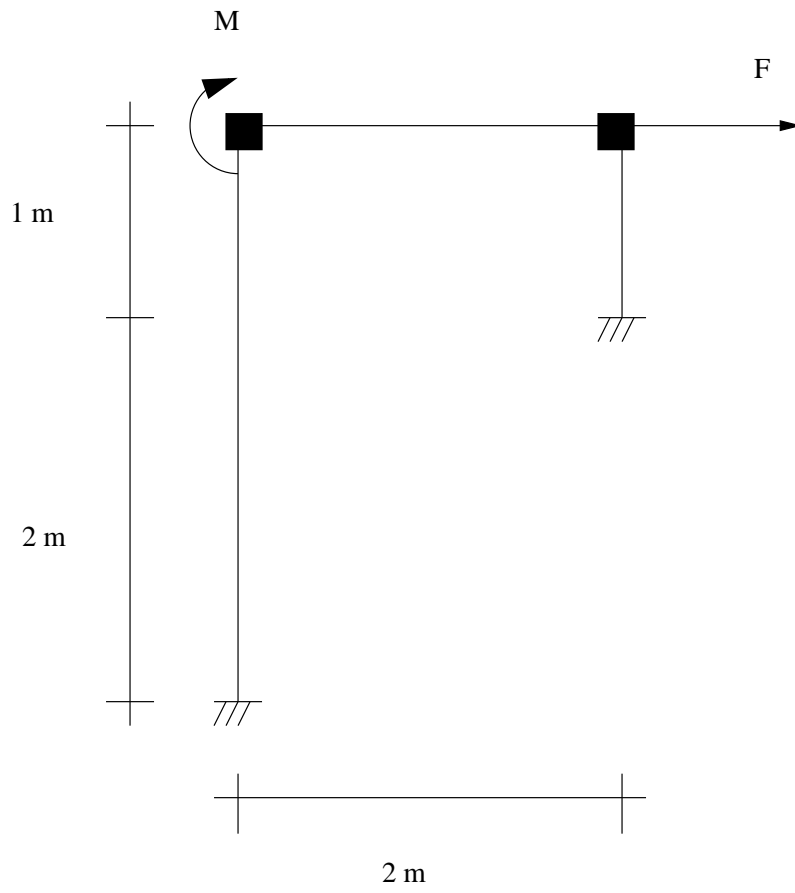


HW 4: Due Thursday March 5

1. Consider the truss shown below. Assume that $L = 2$ ft, the bars are all solid round stock mild steel, the upper bars have diameter 0.75 in, the lower bars have diameter 1.0 in and the diagonal bars have diameter 0.5 in. Assume that $F_1 = 3.0F_2$. Find the lowest value of F_2 at which a bar in the truss reaches the yield stress $\sigma_Y = 40$ ksi. What is the deflection at the two applied loads at this moment? (You may use your program from the lab to solve this).



2. For the frame shown assume that the members have solid square cross-sections with dimensions $4 \text{ cm} \times 4 \text{ cm}$. The members are made from 6061 Aluminum. If $M = (2 \text{ m})F$ and $F = 1 \text{ kN}$, what is the rotation at the point where the moment is applied? (You should use your program from the lab to solve this).



3. SG 11.1
4. SG 11.2
5. SG 11.4