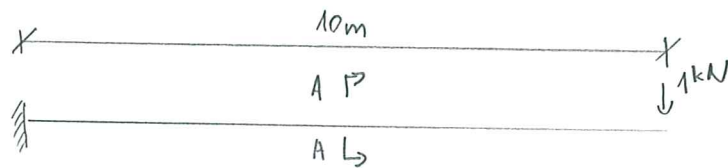
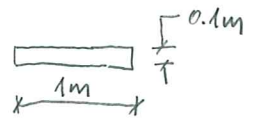


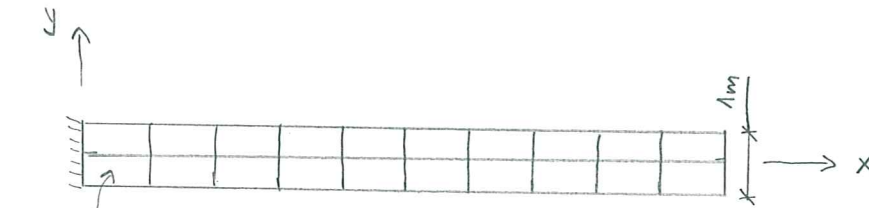
- CHECK INFLUENCE SURFACES CALCULATED BY SAP USING
- SIMPLE EXAMPLE OF CANTILEVER BEAM MODELED USING SHELL ELEMENTS



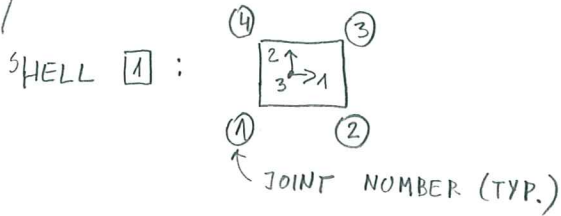
ELEVATION



SECTION A-A



PLAN



AT FIXED END: $M_{11} \cong -10 \text{ kN-m/m}$

INFLUENCE LINE ORDINATES AT FREE END FOR:

- SHELL 1, JOINT 4 RESULTANT FORCE M_{11} : $M = -10$
- SHELL 1, JOINT 4, TOP STRESS S_{11} : $\sigma_{11} = \frac{M}{I} \frac{h}{2} = \frac{-10 \text{ kN-m}}{\frac{1}{12} (1\text{m})(0.1\text{m})^3} \frac{(0.1\text{m})}{2}$

$$= \frac{-(10 \text{ kN-m})(0.1 \text{ m})(12)}{(2)(1 \text{ m})(0.1 \text{ m})^3} = -6000 \text{ kN/m}^2 \rightarrow \sigma = -6000 \text{ m}^{-2}$$

SHELL 1, JOINT 4, BOTTOM STRESS σ_{11} : $\sigma = +6000 \text{ m}^{-2}$

(NEGATIVE OF TOP STRESS)