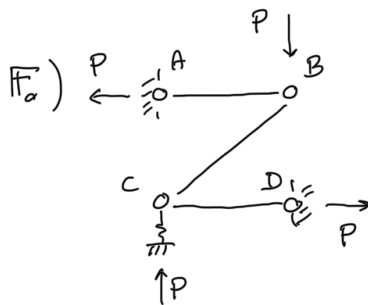


PROVA SCRITTA TELEMATICA DEL 15 GIUGNO 2021

Sintesi della soluzione

Problema 1

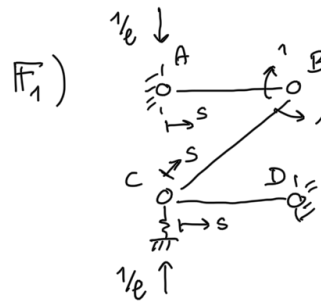


$$N_{AB} = N_{CD} = P$$

$$N_{BC} = -P\sqrt{2}$$

$$T_{AB} = T_{BC} = T_{CD} = 0$$

$$M_{AB} = M_{BC} = M_{CD} = 0$$



$$N_{AB} = N_{CD} = 0 ; N_{BC} = -\frac{1}{2\sqrt{2}}$$

$$T_{AB} = -\frac{1}{2} ; M_{AB} = -\frac{s}{2}$$

$$T_{BC} = \frac{1}{2\sqrt{2}} ; M_{BC} = \frac{s}{2\sqrt{2}}$$

$$T_{CD} = 0 ; M_{CD} = 0$$

$$\eta_1 = \eta_{10} + X_1 \eta_{11}$$

$$\eta_{10} = \frac{P}{k\ell}$$

$$\eta_{11} = \frac{1}{k\ell^2} + \int_A^B \frac{M_1^2}{ES} ds + \int_B^C \frac{M_1^2}{ES} ds = \frac{1}{k\ell^2} + \frac{\ell(\sqrt{2}+1)}{3ES}$$

$$\eta_1 = -\frac{X_1}{k_0}$$