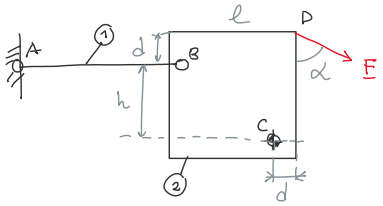
Esercitazione

giovedì 7 novembre 2024 17:42



Noto : $l, h, d, \alpha = 45°$

$(D, \underline{F})$

TROVARE : DCL DEF.

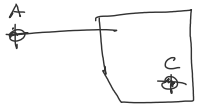
•) AGV. 3 CERNIERE A, B, C $\Rightarrow$ $-2\ gdl \times 3 = 6$

$n\ gdl = \underset{\text{CORPI}}{3 \times 2} - \underset{\text{CER.}}{3 \times 2} = 0$

•) AFV.  $\Rightarrow$ R_x, R_y $\Rightarrow$ 2 INCOG $\forall$ CERNIERA $\Rightarrow$ $2 \times 3 = 6$ INCOGNITE RELATIVE

•) SCI ? (SI) 6 INCOG. = 6 EQUAZ $\quad 3 \times 2$

•) SEI ? (NO) 4 INCOG > 3 EQUAZ

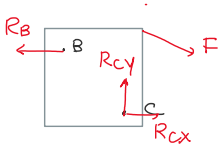


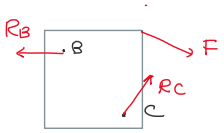
•) $\exists$ CORPI SCARICHI ? SÌ, ASTA (1)

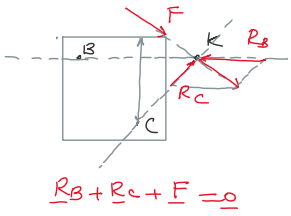
$\Rightarrow$ DCL PRELIMINARI

CORPO (1)

CORPO (2)







(3) Eq^{wi} STAT. CORPO (2) $\Rightarrow$ R_B, R_{Cx}, R_{Cy} (3) INCOG.

$$\begin{cases} X: & R_{Cx} - R_B + F \sin\alpha = 0 \\ Y: & R_{Cy} - F\cos\alpha = 0 \\ C: & R_B\, h - F\cos\alpha\, d - F\sin\alpha\,(h+d) = 0 \end{cases}$$

$$R_{Cy} = F\cos\alpha = F\sqrt{2}/2$$

$$R_B = F\left(\frac{\cos\alpha\, d + \sin\alpha\,(h+d)}{h}\right) = F\frac{\sqrt{2}}{2}\left(\frac{h+2d}{h}\right) = F\frac{\sqrt{2}}{2}\left(1 + 2\frac{d}{h}\right)$$

$$R_{Cx} = R_B - F\sin\alpha = \frac{F\cos\alpha\, d + \sin\alpha(h+d) - F\sin\alpha}{h}$$

$$= \frac{F\cos\alpha\, d + \sin\alpha\, d}{h} = F\frac{d}{h}(\cos\alpha + \sin\alpha) = F\frac{d}{h}\sqrt{2}$$

DCL DEFINT.

$\frac{F\sqrt{2}}{2}(1+2d/h)$ $\frac{F\sqrt{2}}{2}(1+2d/h)$