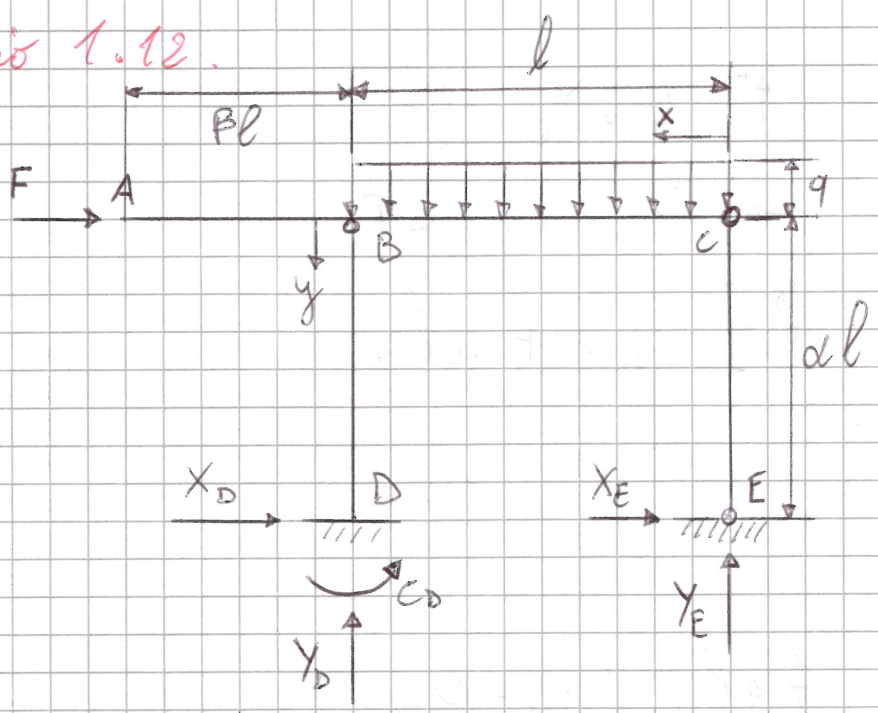
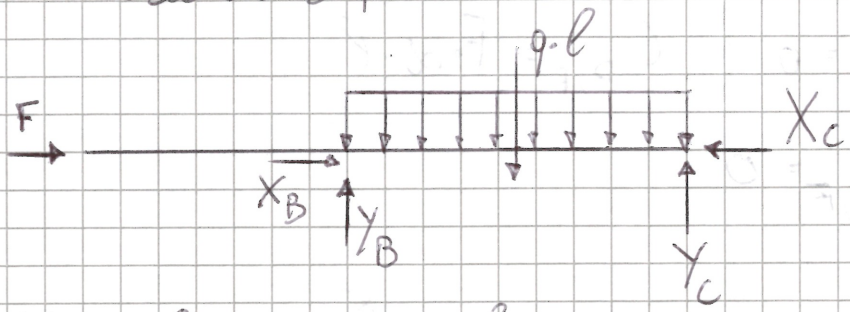
Esercizio 1.12.



Calcolo le reazioni vincolari della struttura isostatica $(3+2+2+2=3\cdot3)$

Divido la struttura in 3 parti.

$\overline{ABC}$:



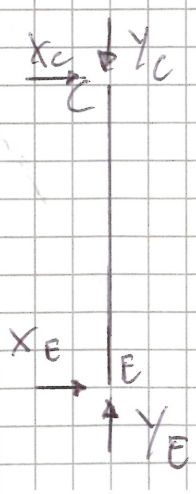
$\uparrow +$) $Y_B + Y_C = ql \rightarrow Y_B = \frac{ql}{2}$

$\rightarrow +$) $F + X_B - X_C = 0$

$+\circlearrowleft_B$) $Y_C = \frac{ql}{2}$

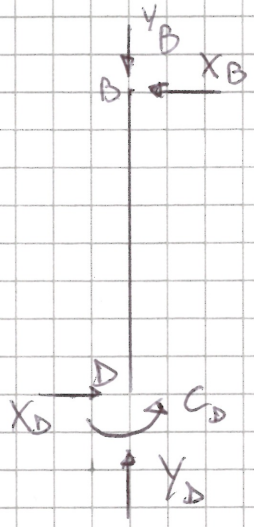
Noto che $\overline{CE}$ è una biella $\Rightarrow X_C = 0 \; ; \; X_E = 0$

$\rightarrow X_B = -F$

$\overline{CE}$: 

$Y_E = Y_C = \frac{ql}{2}$

$\overline{BD}$:



$\uparrow^{+}) \; Y_B = Y_D = \frac{ql}{2}$

$\rightarrow^{+}) \; X_D = X_B = -F$

$\circlearrowleft_{+}^{D}) \; C_D = F \cdot \alpha l$

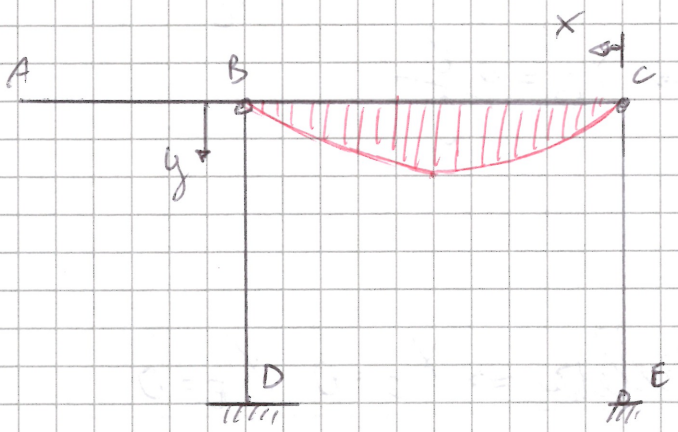
- $X_{D,q} = 0 \; ; \; Y_{D,q} = \frac{1}{2} ql \; ; \; C_{D,q} = 0$

  $X_{E,q} = 0 \; ; \; Y_{E,q} = \frac{1}{2} ql$

- $X_{D,F} = -F \; ; \; Y_{D,F} = 0 \; ; \; C_{D,F} = F \cdot \alpha \cdot l$

  $X_{E,F} = 0 \; ; \; Y_{E,F} = 0$

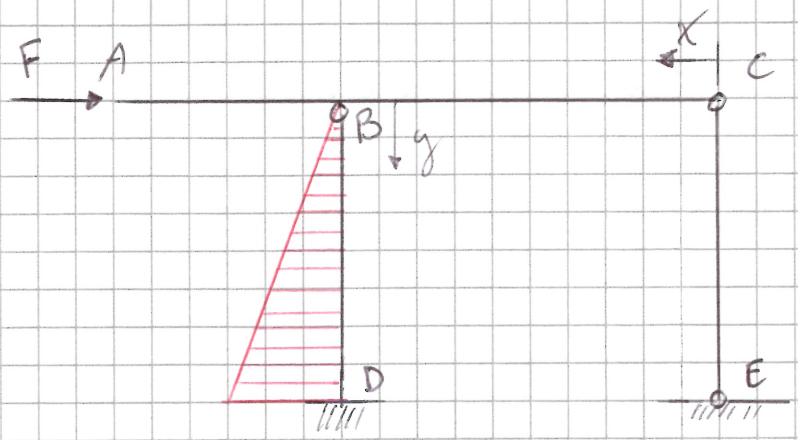
- M_f con solo q



$M_{f\,CB,q} = \frac{qlx}{2} - q\frac{x^2}{2}$

$M_{f\,BD,q} = 0$

- M_f con solo F



$M_{f\,CB,F} = \emptyset$

$M_{f\,BD,F} = F \cdot y$