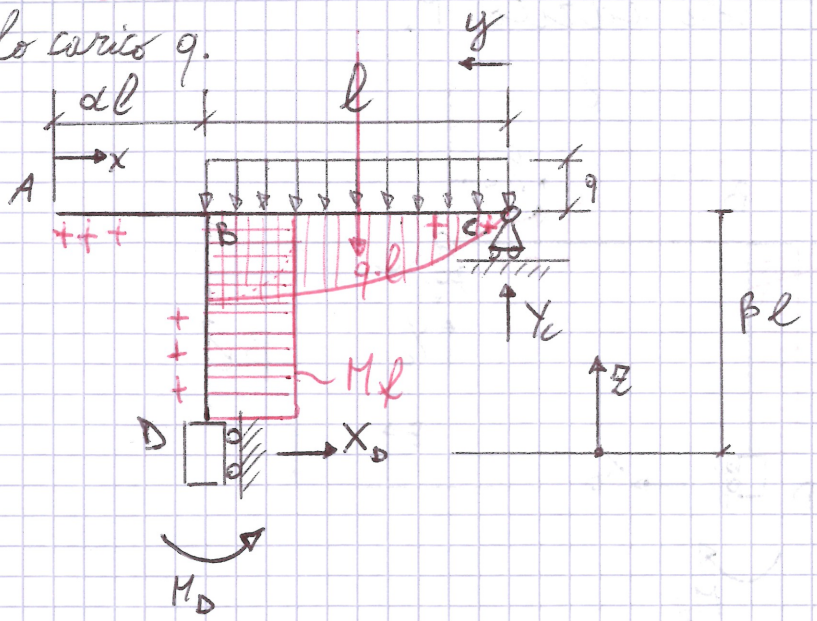
Esercizio 1.28

Considero il sdo carico q.



Trovo le reazioni vincolari con le eq. di equilibrio.

$$\rightarrow^{+}] \quad X_D = 0$$

$$\uparrow^{+}] \quad Y_C - q\cdot l = 0 \rightarrow Y_C = q\cdot l$$

$$\overset{+}{\circlearrowleft}_{D}] \quad M_D - q\cdot l\cdot\frac{l}{2} + Y_C\cdot l = 0 \rightarrow M_D = \frac{ql^2}{2} - q\cdot l\cdot l = -\frac{ql^2}{2}$$

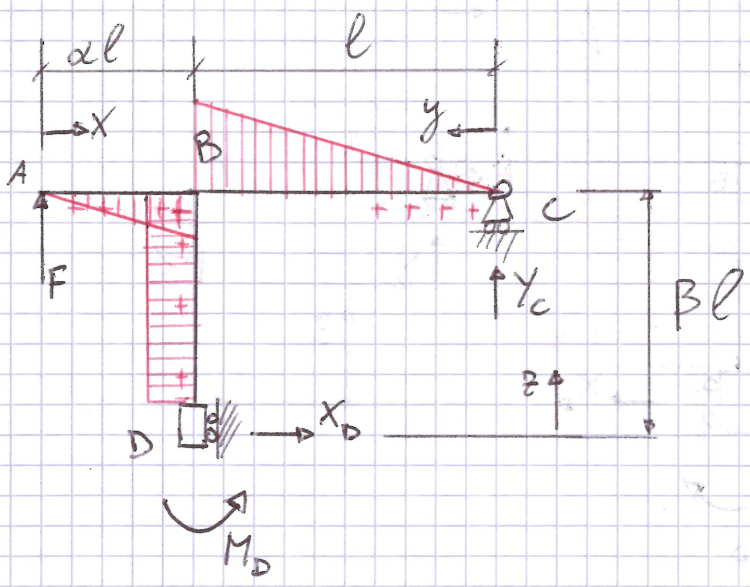
Calcolo i momenti flettenti.

$$Mf(x)_q = 0$$

$$Mf(y)_q = q\cdot l\cdot y - q\frac{y^2}{2}$$

$$Mf(z)_q = -q\frac{l^2}{2}$$

Considero ora il solo carico F.



Calcolo le reazioni vincolari sfruttando le eq. di equilibrio.

$\rightarrow^{+}]\ X_D = 0$

$\uparrow^{+}]\ F + Y_C = 0 \rightarrow Y_C = -F$

$+\circlearrowright_A]\ M_D + Y_C \cdot (l + \alpha l) = 0 \rightarrow M_D = F \cdot (l + \alpha l)$

Calcolo i momenti flettenti:

$Mf(x)_F = F \cdot x$

$Mf(y)_F = -F \cdot y$

$Mf(z)_F = F \cdot l(\alpha + 1)$