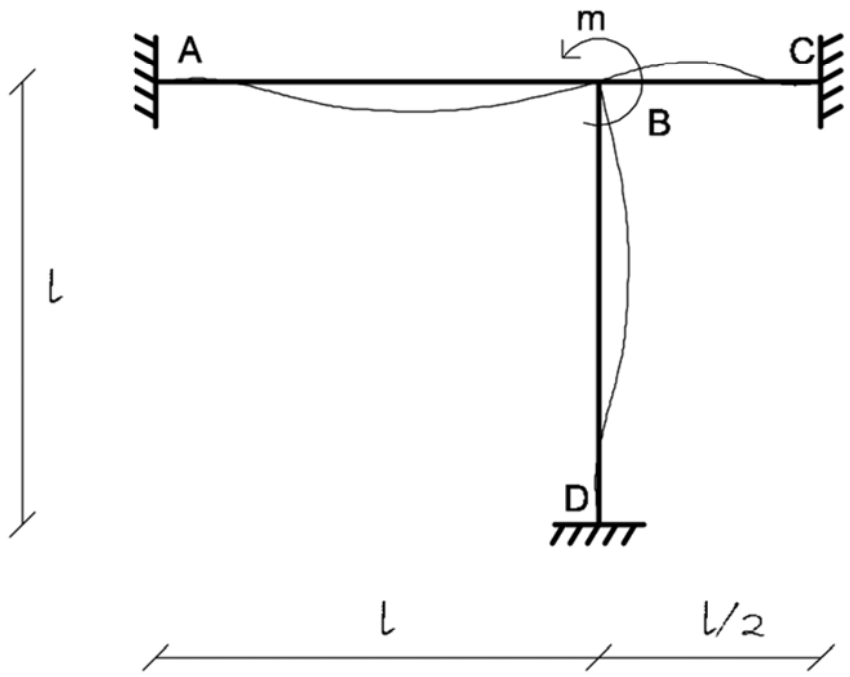
ESERCIZIO 6

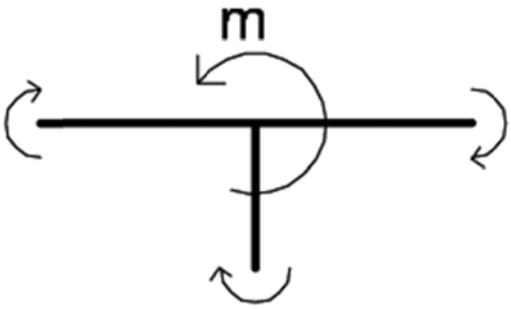


$$m = M_{BA} + M_{BD} + M_{BC}$$

$$M_{BA} = \varphi_B \cdot \frac{4EI}{l} \;\; ; \;\; M_{AB} = \varphi_B \cdot \frac{2EI}{l}$$

$$M_{BD} = \varphi_B \cdot \frac{4EI}{l} \;\; ; \;\; M_{DB} = \varphi_B \cdot \frac{2EI}{l}$$

$$M_{BC} = \varphi_B \cdot \frac{8EI}{l} \;\; ; \;\; M_{CB} = \varphi_B \cdot \frac{4EI}{l}$$



Equazione di equilibrio

$$m = \varphi_B \cdot \frac{4EI}{l} + \varphi_B \cdot \frac{4EI}{l} + \varphi_B \cdot \frac{8EI}{l} \qquad \Longrightarrow m = \varphi_B \left(\frac{4EI}{l} + \frac{4EI}{l} + \frac{8EI}{l} \right)$$

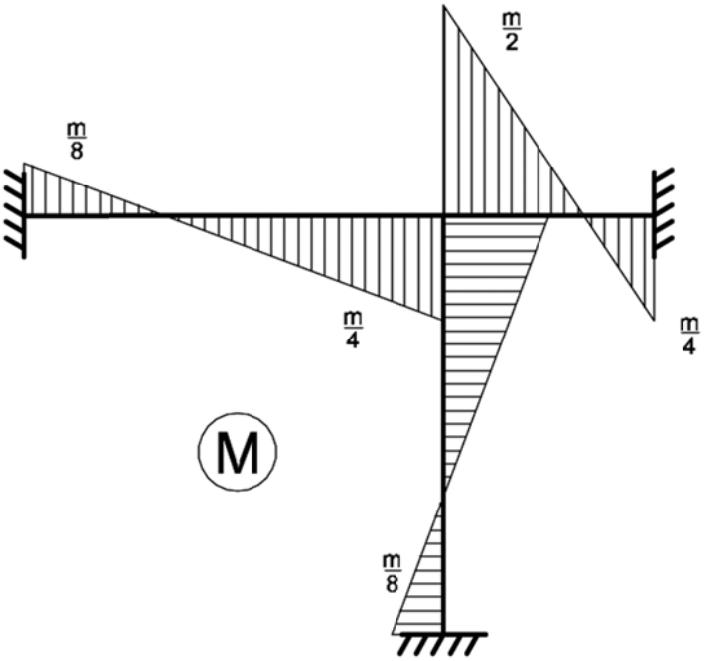
$$m = \varphi_B \cdot \frac{16EI}{l}$$

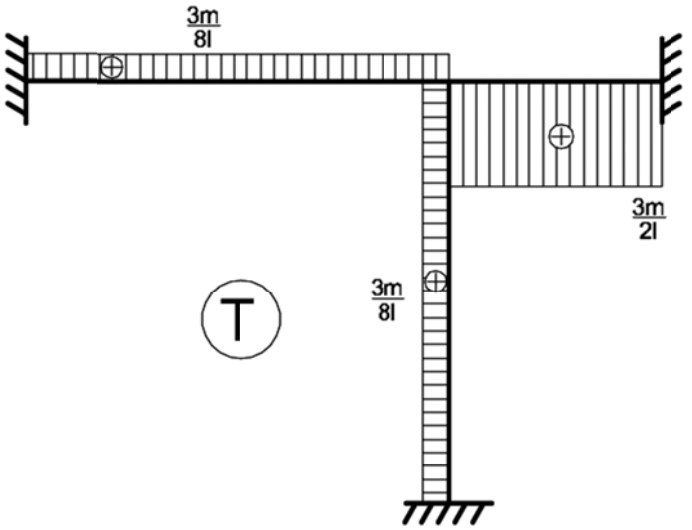
$$\varphi_B = \frac{ml}{16EI}$$

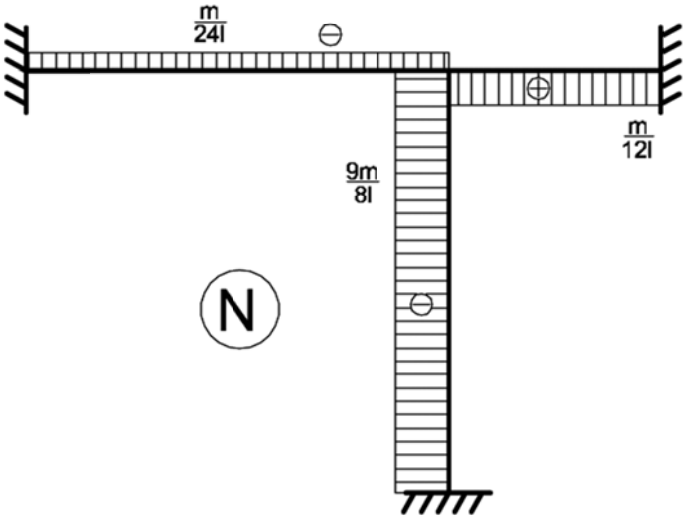
$$M_{BA} = \frac{m}{4} \quad ; \quad M_{AB} = \frac{m}{8}$$

$$M_{BD} = \frac{m}{4} \quad ; \quad M_{DB} = \frac{m}{8}$$

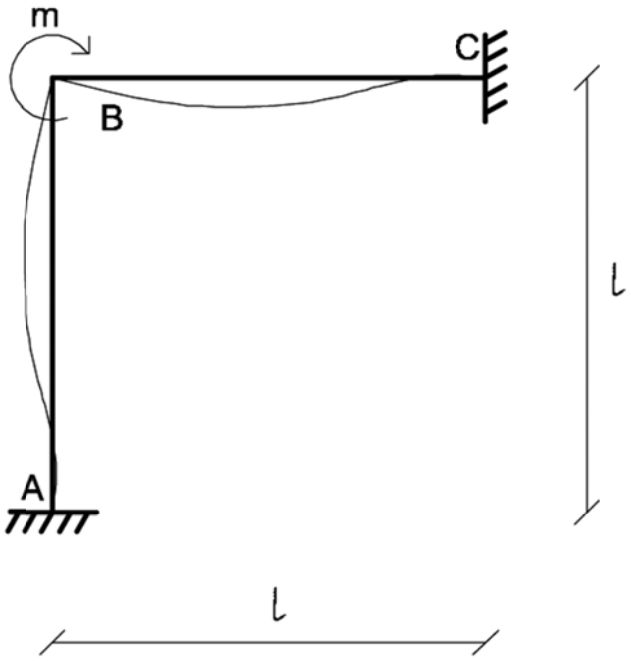
$$M_{BC} = \frac{m}{2} \quad ; \quad M_{CB} = \frac{m}{4}$$







ESERCIZIO 7



$m = M_{BA} + M_{BC}$

$M_{BA} = \varphi_B \cdot \frac{4EI}{l}$ / $M_{BC} = \varphi_B \cdot \frac{4EI}{l}$

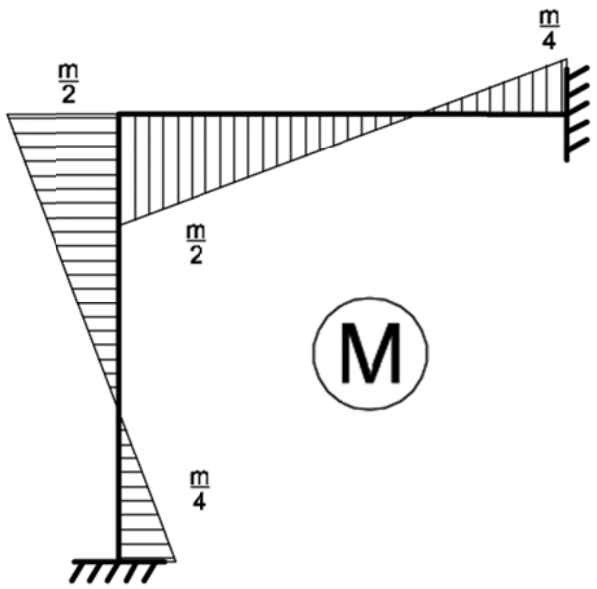
equazione di equilibrio

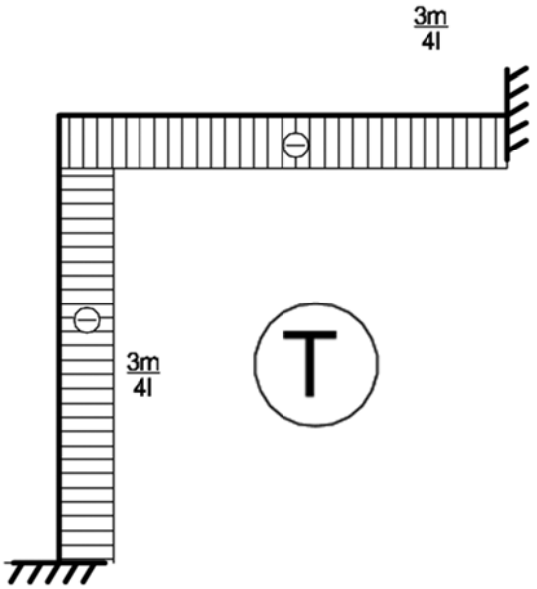
$$m = \varphi_B \left(\frac{4EI}{l} + \frac{4EI}{l}\right) \quad \Rightarrow \quad \varphi_B \left(\frac{8EI}{l}\right) \quad \Rightarrow \quad \frac{\varphi_B}{m} = \frac{l}{8EI}$$

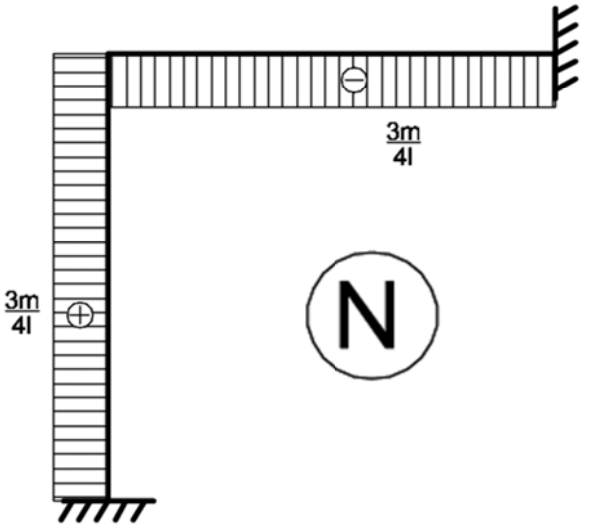
$$\Rightarrow \quad \varphi_B = \frac{ml}{8EI}$$

$M_{BA} = \frac{m}{2}$; $M_{AB} = \frac{m}{4}$

$M_{BC} = \frac{m}{2}$; $M_{CB} = \frac{m}{4}$


m/4
m/2
m/2
M
m/4


3m/4l
3m/4l
T


3m/4l
3m/4l
N