$$L = F_{//} \cdot s$$

$$\vec{F} = m \cdot \vec{a} \longrightarrow \vec{F} = m \cdot \frac{\Delta \vec{v}}{\Delta t}$$

$$L = m \cdot \frac{\Delta v}{\Delta t} \cdot s \longrightarrow L = m \cdot \frac{\Delta v}{\Delta t} \cdot \Delta x$$

$$\frac{\Delta x}{\Delta t} = \bar{v} \quad \text{solo in M.U.A.}$$

$$\bar{v} = \frac{|v_f + v_i|}{2}$$

$$L = m \cdot \Delta v \cdot \frac{(v_i + v_f)}{2} \Longrightarrow L = m \cdot (v_f - v_i) \cdot \bar{v}$$

$$L = \frac{1}{2} m (v_i^2 - v_f^2)$$

$L_{TOT} = \Delta T$ $\qquad$ $L_{TOT} = L_{NC} + L_C$

$\Delta U = -L_C \Longrightarrow \Delta U = -\Delta T$

$\Delta Q = 0$ $\qquad$ Q è conservata

$\Delta U + \Delta T = 0 \longrightarrow \Delta(U+T) = 0$

E_M

Con forze non conservative

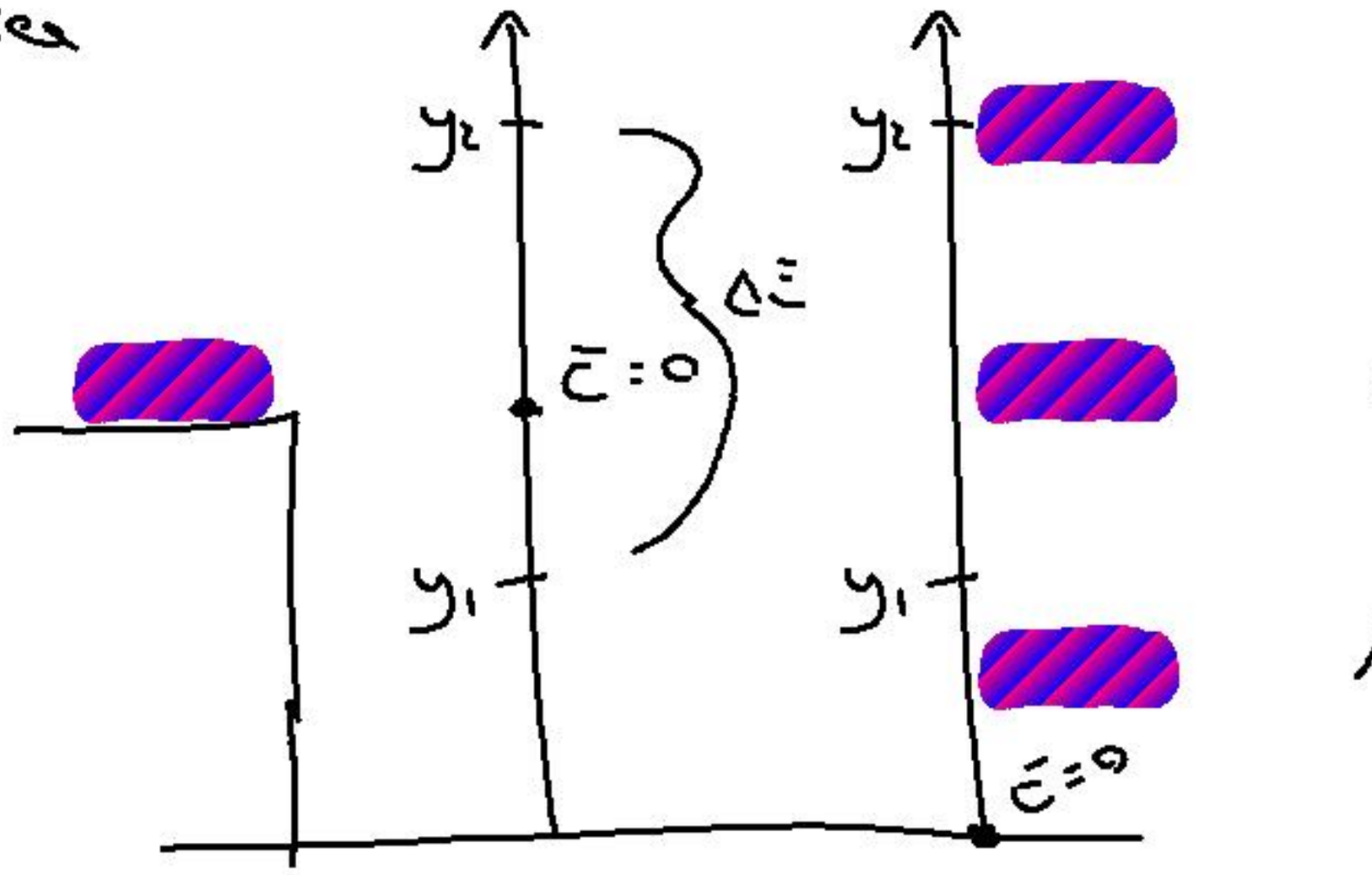
$\Delta E_M \neq 0 \qquad \Delta E_M = ?$

$\Delta U + \Delta T = -L_C + L_{TOT} = L_{NC}$

NON CONSERVATIVO

Energia meccanica

$$E_M = T + U$$



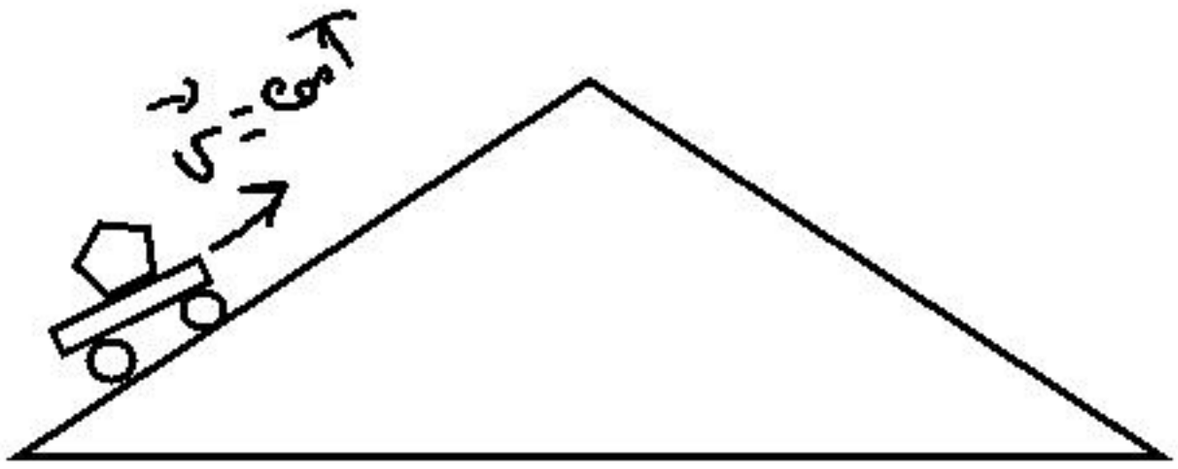
In sistema conservativo

$$\Delta E_M = 0$$

~~In sistema conservativo~~

$$\Delta E_M \neq 0$$

$$\Delta E_M = L_{NC}$$



$$\Delta E_k > 0$$