

FORZA CONSERVATIVA

Def. 1

LAVORO TOTALE NULLO SU UN PERCORSO
CHIUSO

Def 2

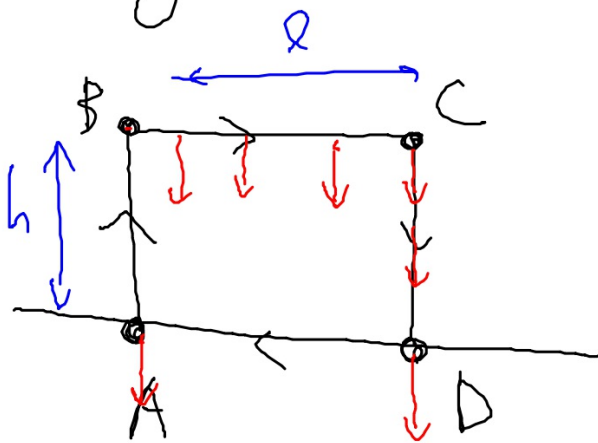
LAVORO DALLA POSIZ. A ALLA POS. B.
L e' indipendente dal percorso.

CASO FORZA GRAVITAZIONE

$$L = \vec{F} \cdot \vec{s} = F \cdot s$$

$$P = mg$$

$$L_{TOT} = L_{AB} + L_{BC} + L_{CD} + L_{DA}$$



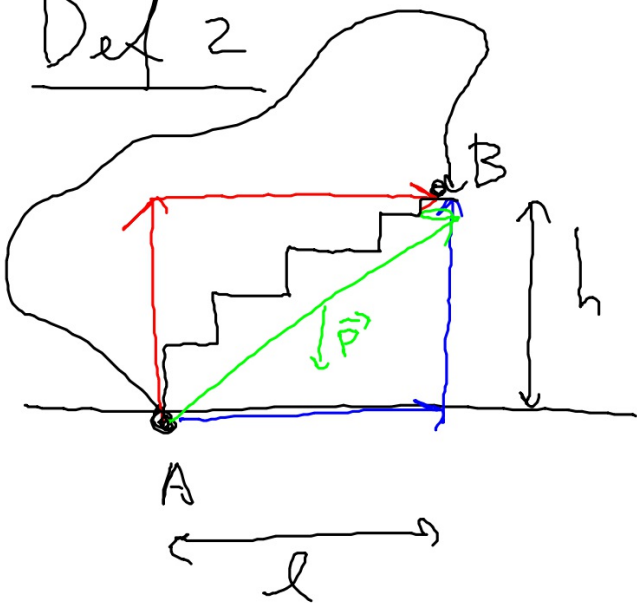
$$L_{AB} = -mgh$$

$$L_{BC} = 0$$

$$L_{CD} = mgh$$

$$L_{DA} = 0$$

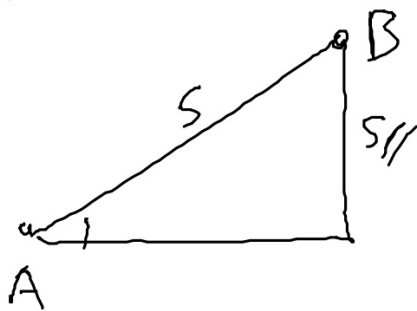
Def 2



$$L_{A \rightarrow B} = -mgh + 0$$

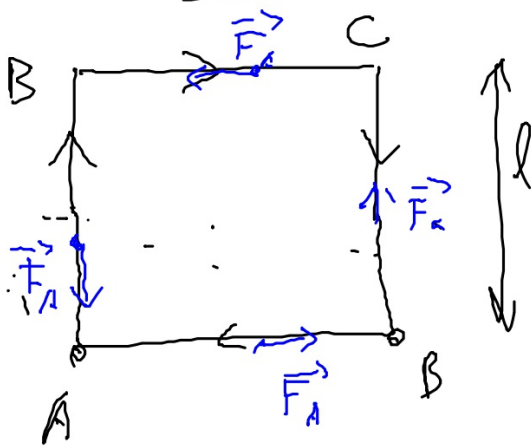
$$L_{A \rightarrow B} = -mgh + 0$$

$$L_{A \rightarrow B} = -mgh$$



$$L = \vec{F} \cdot \vec{S} = F \cdot S_{||}$$

FORZA ATTRITO : NON CONSERVATIVA

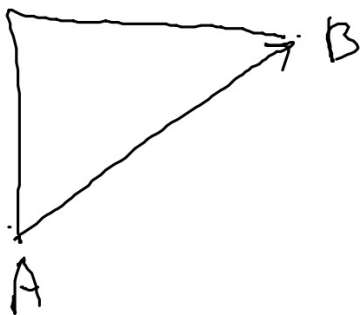


$$L_{AB} = -F_A \cdot l$$

$$L_{BC} = -F_A \cdot l$$

⋮

$$L_{TOT} = -4F_A \cdot l \neq 0$$

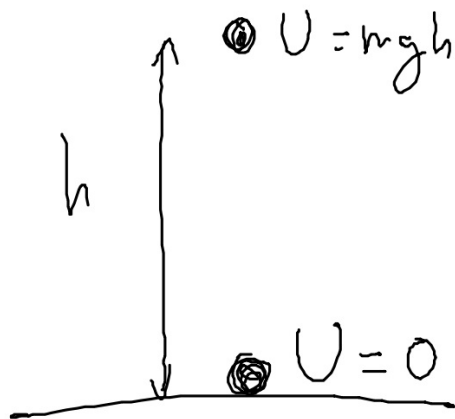


ENERGIA POTENZIALE : U

$$L = W = -\Delta U = U_i - U_f = -(U_f - U_i)$$

↑ ↗
LAVORO

$$U = mgh$$



P (LEGGE) PRINCIPIO CONSERVAZIONE ENERGIA

ENERGIA MECCANICA TOTALE

$$E = U + K$$

CONSERVAZIONE ENERGIA MECCANICA.

$E = U + K \rightarrow$ costante se solo

FORZE CONSERVATIVE.