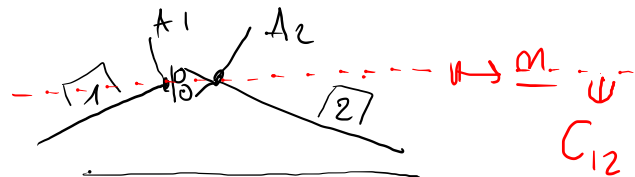


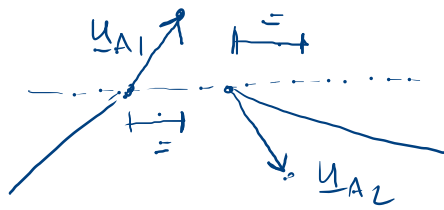
11/11/22

... VINCOLI SEMPLICI ($v=1$)

- CARRELLO INTERNO (BIELLA INTERNA)

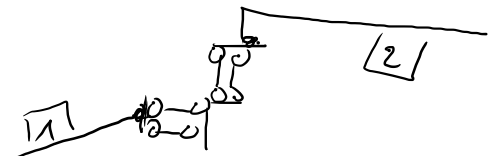
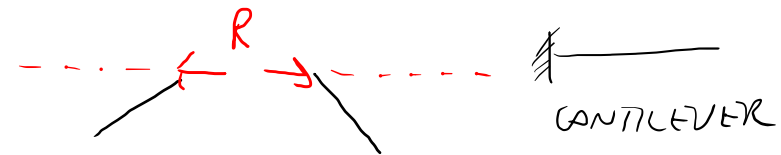


$$\boxed{y_{A1} \cdot m = y_{A2} \cdot m}$$

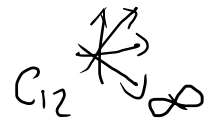


- DOPPIO DOPPIO PENDOLO INTERNO


 PINNED STRUCTURE
 SIMPLY-SUPPORTED STR.



$$\boxed{\varphi_1 = \varphi_2}$$



TRASLAZIONI
 RELATIVE
 LIBERE

CONSTRAINTS

FIXED SUPPORT

BUILT-IN SUPPORT

INCOSSATO

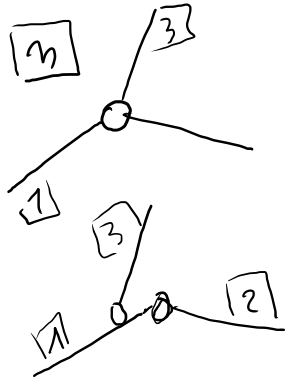
HINGE / PIN

CERNIERA



SLIDER DOPPIO PENDOLO
 ROLLER / SIMPLE SUPPORT CARRELLO.

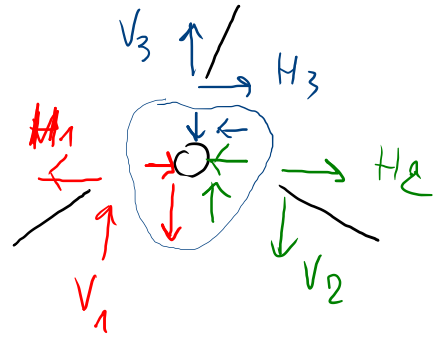
OSSERVA 7. SULLA CERNIERA INTERNA



$$v = 2(m-1)$$

$m: m^o$ C. RIGIDI
CHE CONVERGONO
SULLA CERNIERA

$$v = 4 = 2 + 2$$

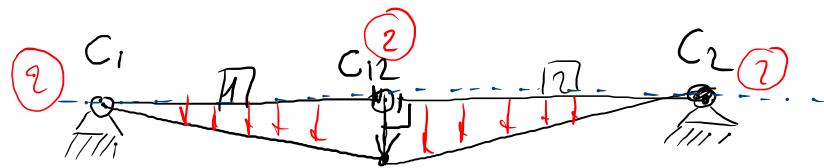


$$v = 4$$

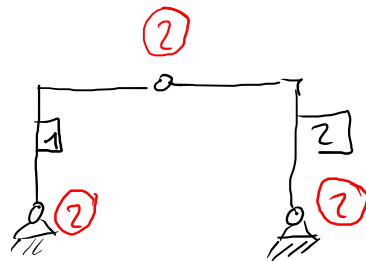
INCOGNITE STADICHE

LA CERNIERA È UN
PUNTO DA EQUILIBRIO

ESEMPI DI DISPOSIZ. NON EFFICACE DI VINCOLI IN STRUTT. ARTICOLATE



$$\left. \begin{array}{l} g=6 \\ v=6 \\ \Delta=5 \end{array} \right\} \begin{array}{l} l=1 \\ \text{LIBRE} \end{array}$$

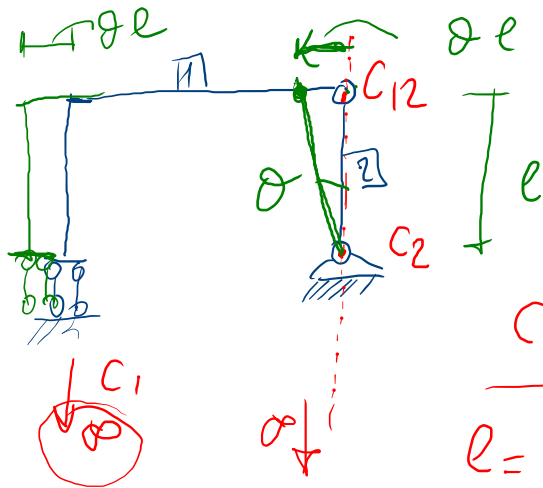


$$\begin{array}{l} g=6 \\ v=6 \\ \Delta=6 \end{array}$$

IL FATTO CHE I VINCOLI SIANO
DISPOSTI IN MANIERA NON EFFICACE

SI GENERALIZZA OSSERVANDO CHE

$$C_1 \leftrightarrow C_{12} \leftrightarrow C_2$$

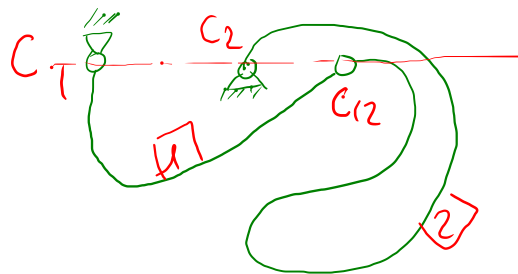
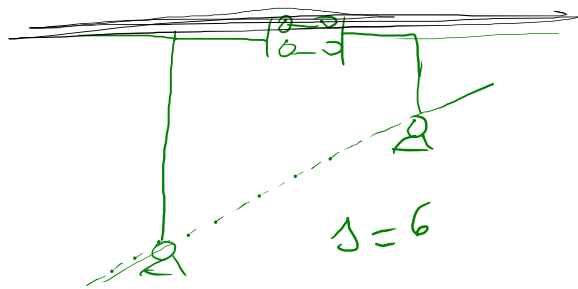


I TEOREMI DELLE
CONDIZ. CINEMATICHE

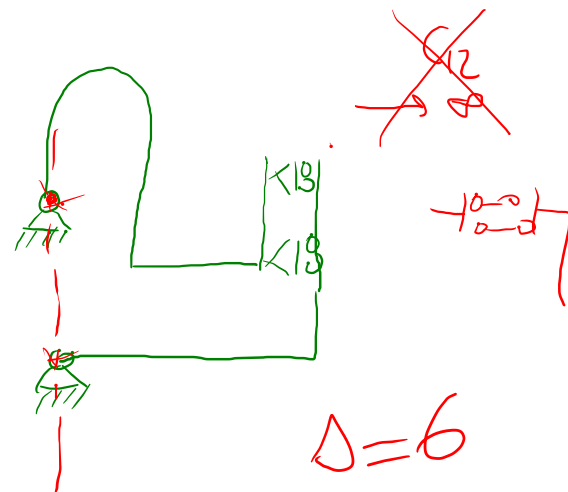
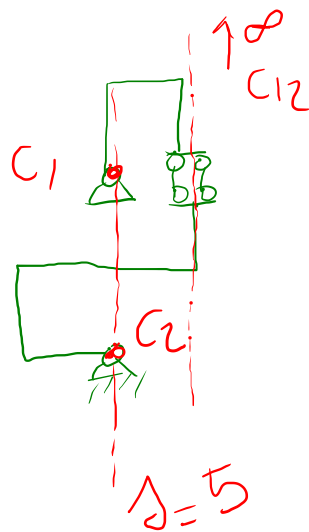
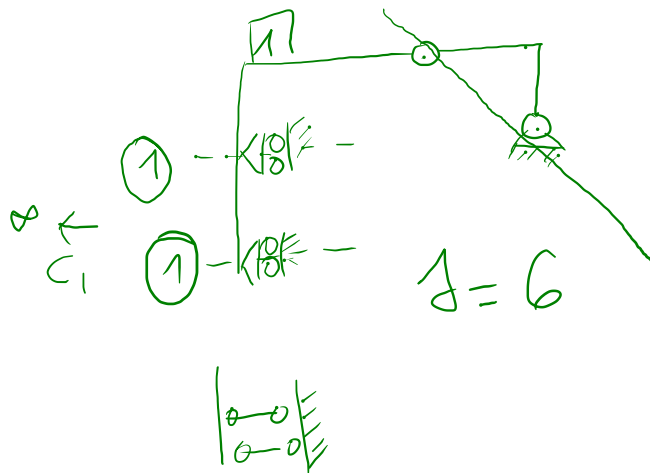
$l=1$: CINEMATISMO o MECCANISMO
(1 gdl)

$$C_1 \leftrightarrow C_{12} \leftrightarrow C_2$$

$$l=1, \Delta=5$$



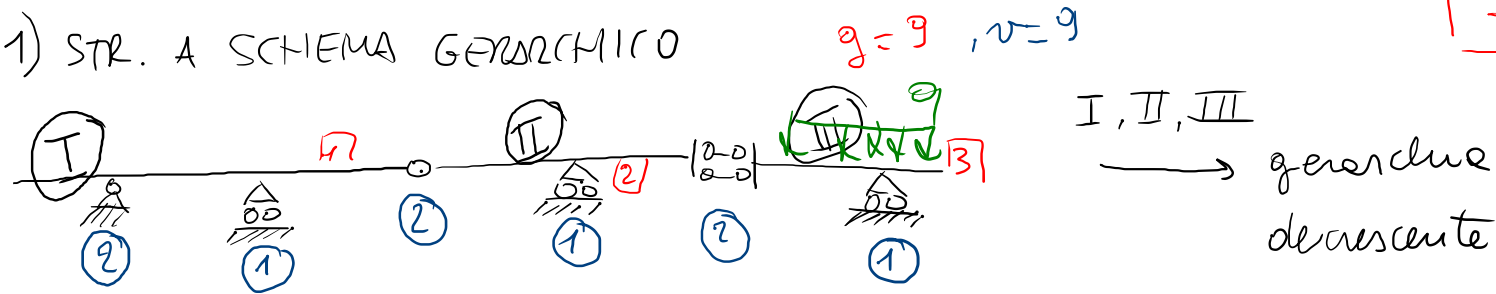
NON EFFICACE



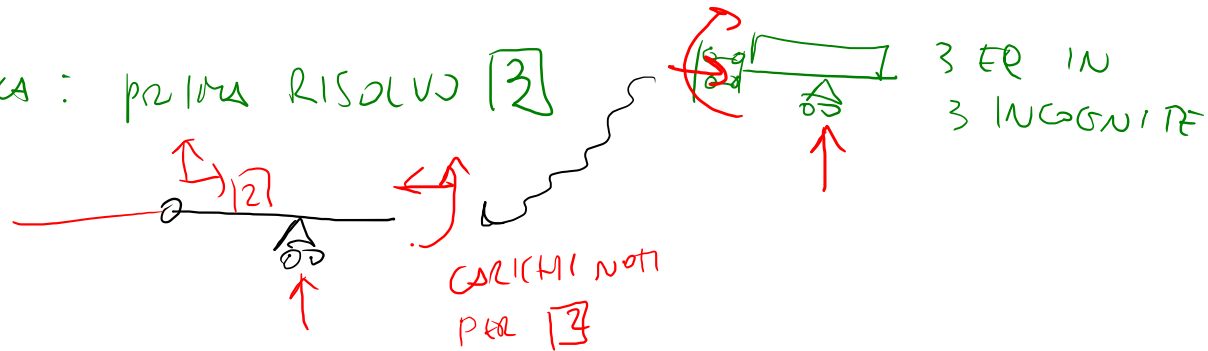
CLASSIFICAZ. STR. ISOST. ARTICOLATE

MARTEDI
8-11 TEAMS

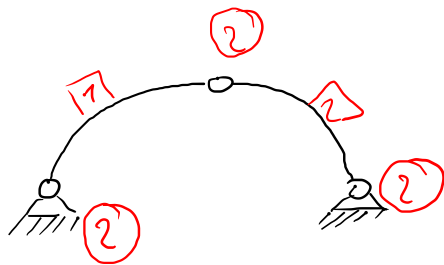
1) STR. A SCHEMA GERARCHICO



SOLUZIONE STATICA: prima RISOLVO [3]



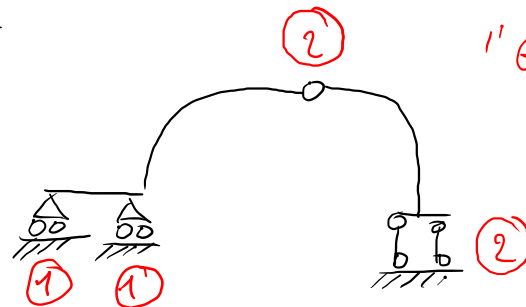
2) STR. DEL TIPO: "ARCO GENERALIZZATO A 3 CERNIERE"



ARCO A 3 CERNIERE

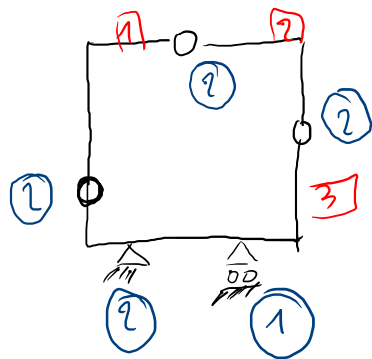
$$q = 6$$

$$v = 6$$



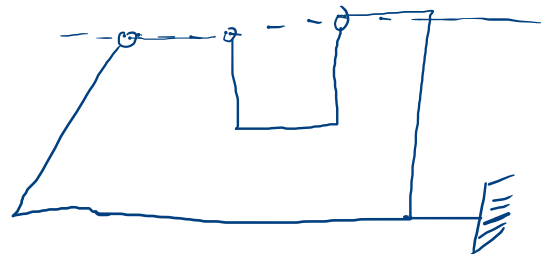
"GENERALIZZATO"

3) STR. CHIUSE



$$q = 9$$

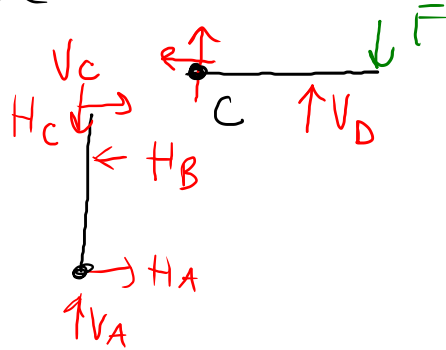
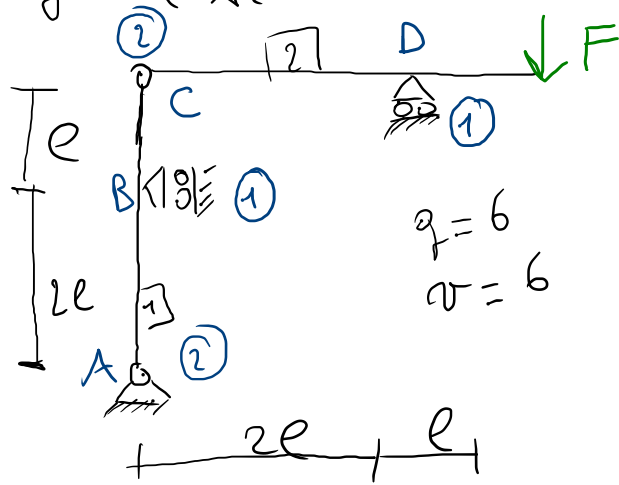
$$v = 3$$



ANALISI STATICA DI STR. ISOSTATICHE ARTICOLATE

IL METODO PIÙ GENERALE È QUELLA DELLA TOTALE SUDDIVISIONE DELLA STRUTTURA NEI VARI CORPIDI, METTENDO IN EVIDENZA TUTTE LE REAZ. VINCOLI INCOGNITE E SCRIVENDO UN SIST. DI

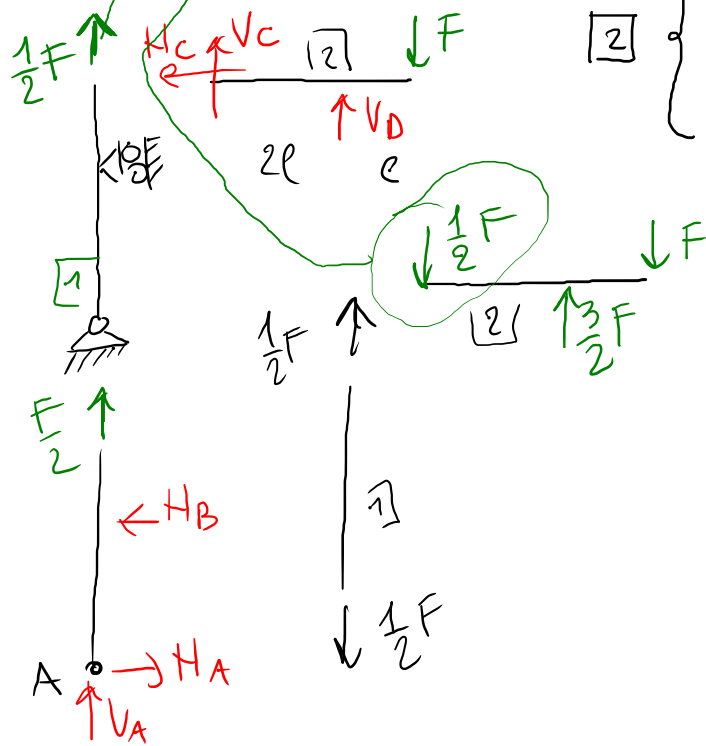
9 EQUAZ. IN 2 INCOGNITE



$$\left. \begin{array}{l} \text{[1]} \quad \begin{array}{l} \rightarrow : +H_A - H_B + H_C = 0 \\ \uparrow : +V_A - V_C = 0 \\ \curvearrowright^+ : H_B 2e - H_C 3e = 0 \end{array} \\ \\ \text{[2]} \quad \begin{array}{l} \rightarrow : -H_C = 0 \\ \uparrow : +V_C + V_D - F = 0 \\ \curvearrowright^+ : V_D 2e - F 3e = 0 \end{array} \end{array} \right\}$$

METHOD LEGAL ALU CLASSIFICAR.

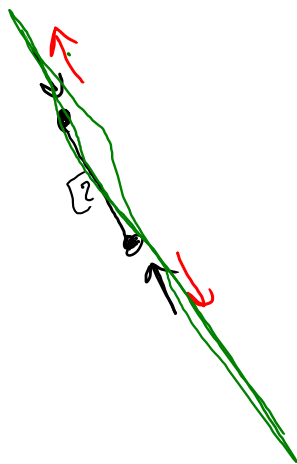
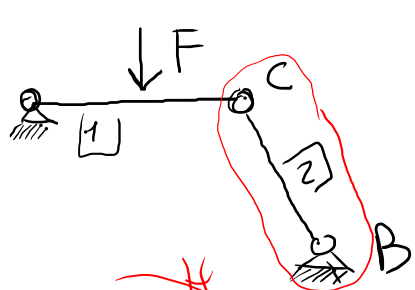
1) STR-GERÄTCHICHE



$$\begin{aligned}
 \text{[2]} \quad & \begin{cases} \rightarrow: -H_C = 0 & H_C = 0 \\ \uparrow: +V_C + V_D - F = 0 & V_C = F - V_D = F - \frac{3}{2}F = -\frac{1}{2}F \\ \curvearrowright: V_D 2l - F 3l = 0 & V_D = \frac{3}{2}F \end{cases}
 \end{aligned}$$

$$\begin{aligned}
 \text{[1]} \quad & \begin{cases} \rightarrow: -H_B + H_A = 0 & H_A = 0 \\ \uparrow: V_A + \frac{F}{2} = 0 & V_A = -F/2 \\ \curvearrowright: H_B 2l = 0 & H_B = 0 \end{cases}
 \end{aligned}$$

OSSERVAZIONE : BIELLA "ESTESA"



$N < 0$
 $T, M = 0$