

- GRADI DI LIBERTA'
 - CATENE CIN. APERTE
CHIUSE
 - RIDONDANZA
 - TIPI DI ROBOT
-

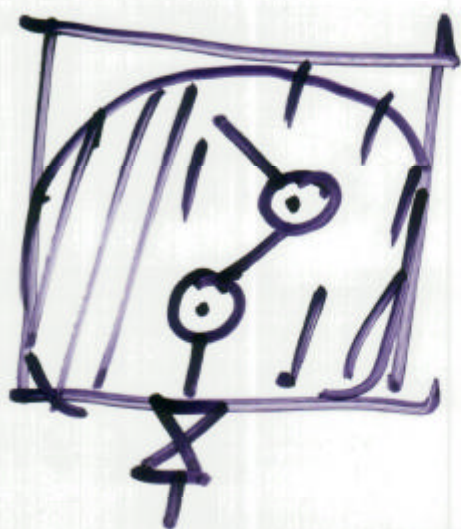
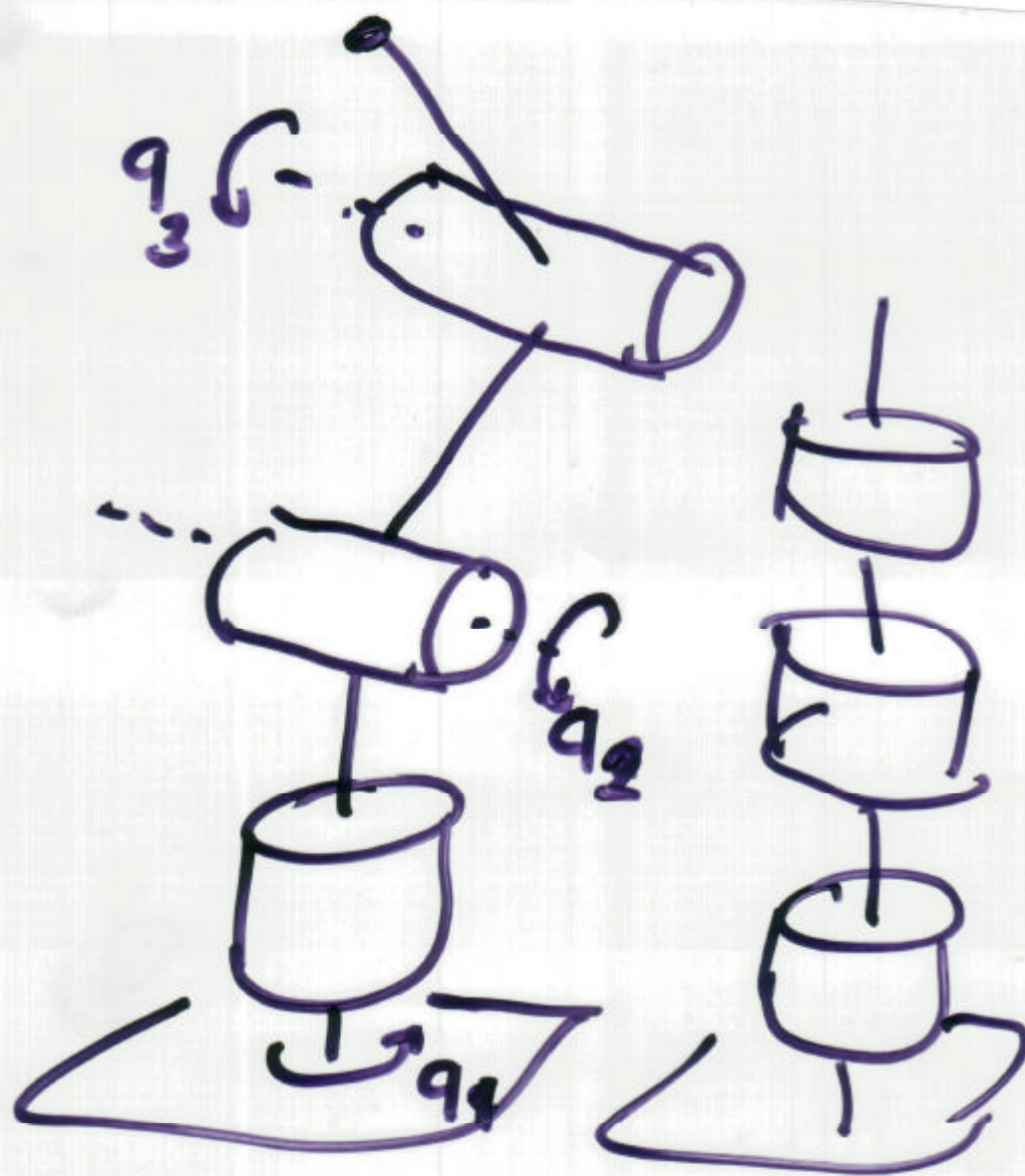
GRADI DI MOVIMENTO

6 PARAMETRI $\begin{cases} 3 \text{ POSIZIONE} \\ 3 \text{ ASSETTO} \end{cases}$

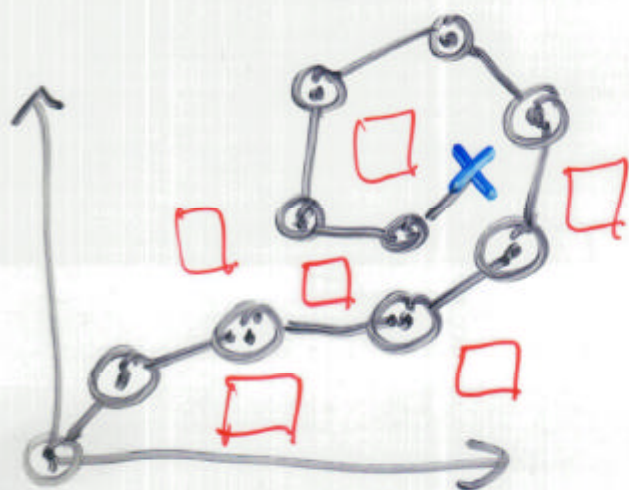
GRADI DI LIBERTA'

RISPETTO
AL
COMPITO

RISPETTO A
QUELLO CHE PUO'
DARMI LA C.C.



$$n_m > n_c$$



$q_i \rightarrow$ parametri interni $\rightarrow \underline{q}$

$p_i \rightarrow$ parametri cartesiani

3 + 3 3 di posizione
3 di assetto

ϕ, θ, ψ

x, y, z

$$\underline{p} = \begin{bmatrix} x \\ y \\ z \\ \phi \\ \theta \\ \psi \end{bmatrix}$$

$$\underline{p} = \underline{f}(\underline{q})$$

$$\alpha = f_1(\underline{q})$$

4

$$\vdots$$

$$\gamma = f_3(\underline{q})$$

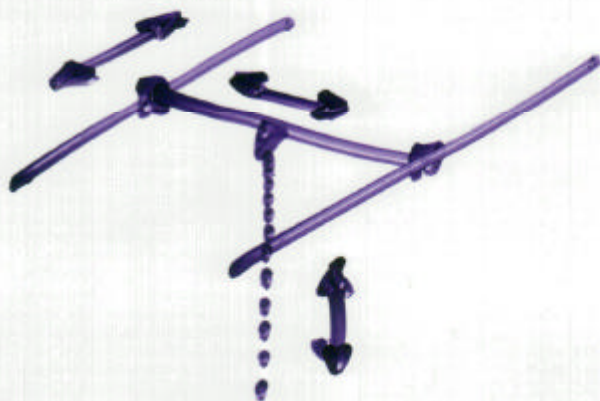
CIN. DIRETTA
DI POSIZIONE :

$$\psi = f_6(\underline{q})$$

TIPI DI ROBOT

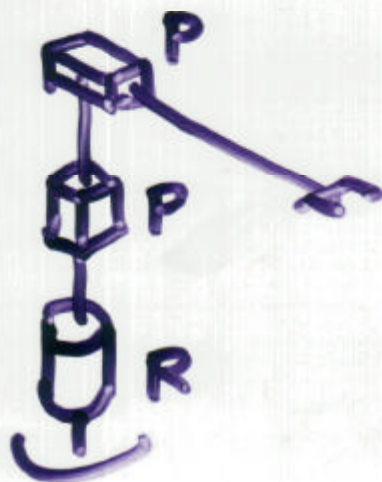
PRIMI
SPALLA $\rightarrow$ 3_A GIUNTI

CARTESIANO 3P



CILINDRICO

1R-2P



2R-1P

3R