

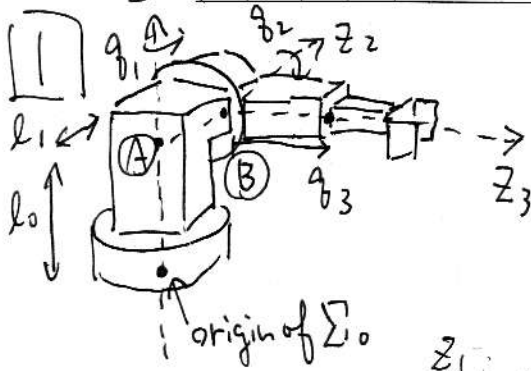
3rd

Assignment (Robotics I, Robotics) ~~1st~~

Z1 (M2, M1, B4, B3, others: CIRCLE ONE)

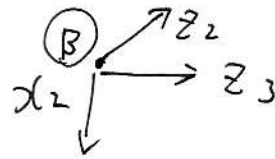
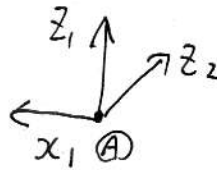
Major (Department)

Name (KANJI or English)

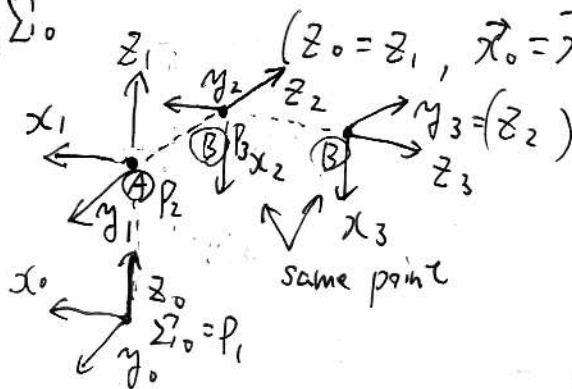


$$\vec{x}_1 = \vec{z}_1 \times \vec{z}_2$$

$$\vec{x}_2 = \vec{z}_2 \times \vec{z}_3$$



Totally $(z_0 = z_1, x_0 = x_1, x_3 = x_2) \Rightarrow$ recommendation



- Step 8 P_1 : rot of x_0 onto $z_1 \Rightarrow \Sigma_0$
- P_2 : x_1 onto $z_2 \Rightarrow A$
- P_3 : x_2 onto $z_3 \Rightarrow B$

[2] Find D-H parameter

Step 9: $a_1 =$ length from Σ_0 to P_1 on $x_0 = 0$
 $a_2 =$ Σ_1 to P_2 on $x_1 = 0$
 $a_3 =$ Σ_2 to P_3 on $x_2 = 0$

Step 10 α_1 : angle from z_0 to $z_1, \uparrow = 0$
 α_2 : z_1 to $z_2, \rightarrow = \frac{\pi}{2}$
 α_3 : z_2 to $z_3, \rightarrow = \frac{\pi}{2}$

Step 11 $d_1 =$ distance from P_1 to $\Sigma_1 = l_0$
 $d_2 =$ P_2 to $\Sigma_2 = l_1$
 $d_3 =$ P_3 to $\Sigma_3 = 0 + q_3$

Step 12 θ_1 : angle from x_0 to x_1 around z_1
 θ_2 x_1 to $x_2 = 0$
 θ_3 x_2 to $x_3 = -\frac{\pi}{2} + q_2$

Thus

i	1	2	3
a_i	0	0	0
α_i	0	$\pi/2$	$\pi/2$
d_i	l_0	l_1	q_3
θ_i	q_1	$q_2 - \frac{\pi}{2}$	0

=

i	a_i	α_i	d_i	θ_i
1	0	0	l_0	q_1
2	0	$\frac{\pi}{2}$	l_1	$q_2 - \frac{\pi}{2}$
3	0	$\frac{\pi}{2}$	q_3	0