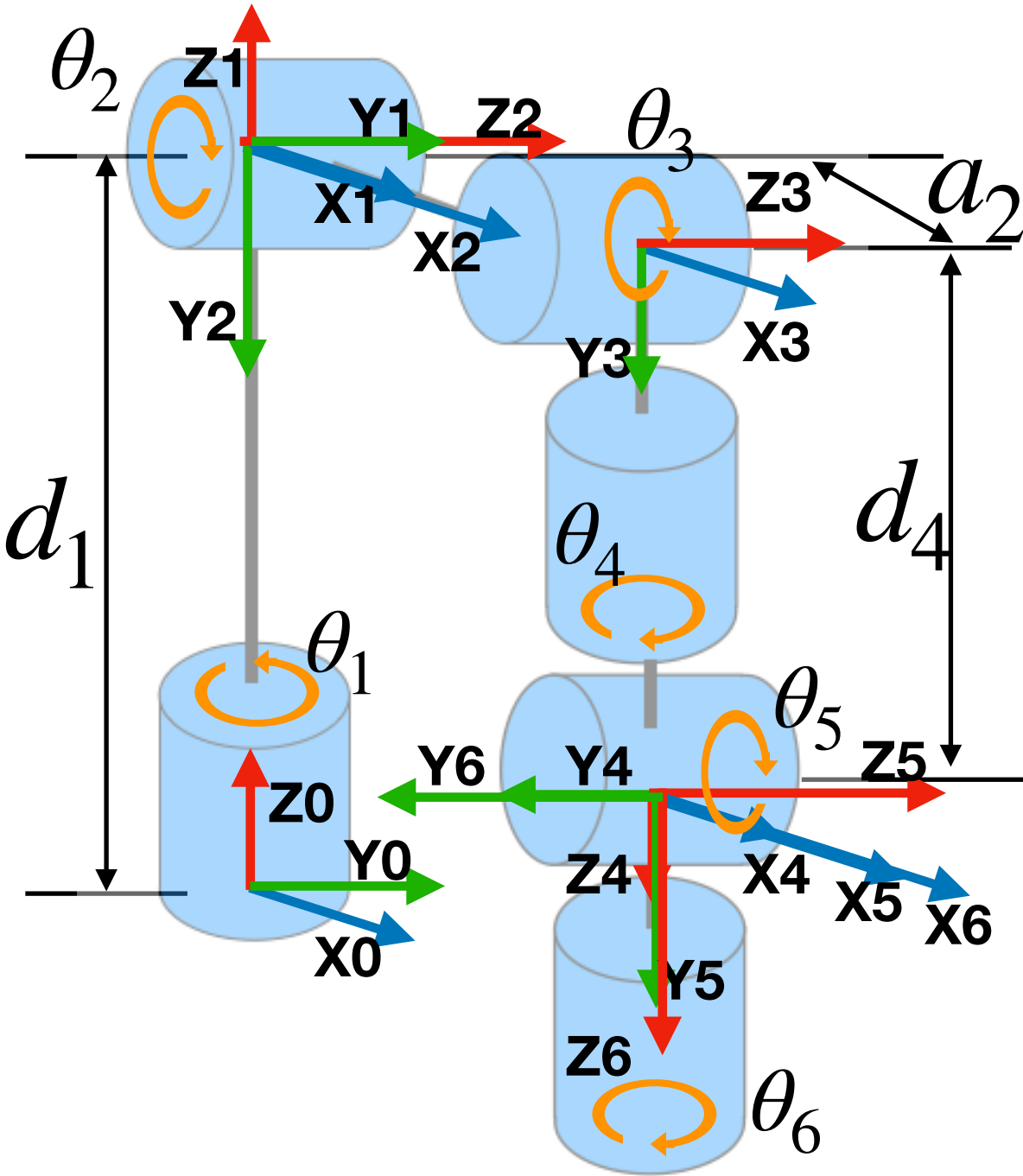
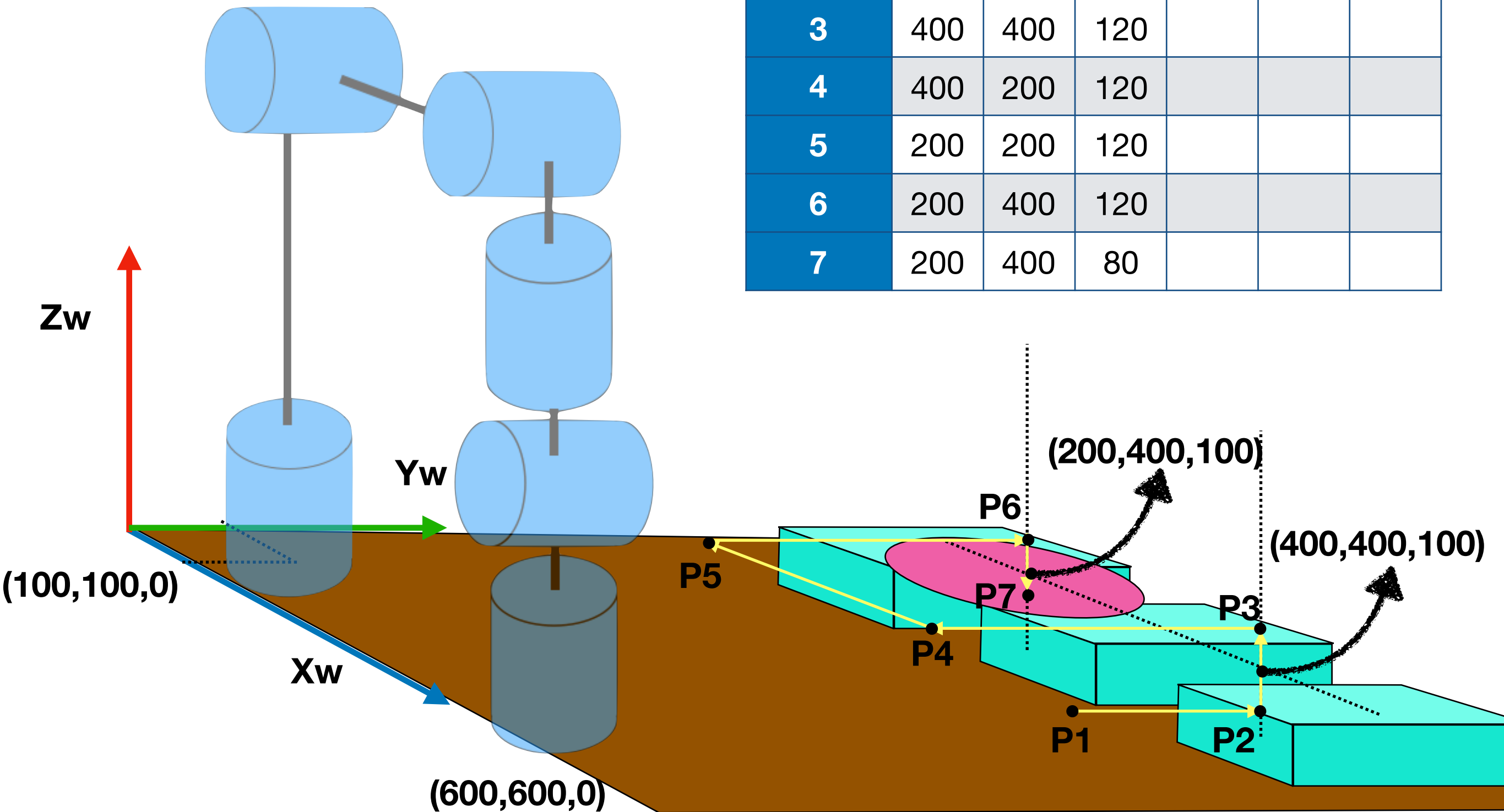
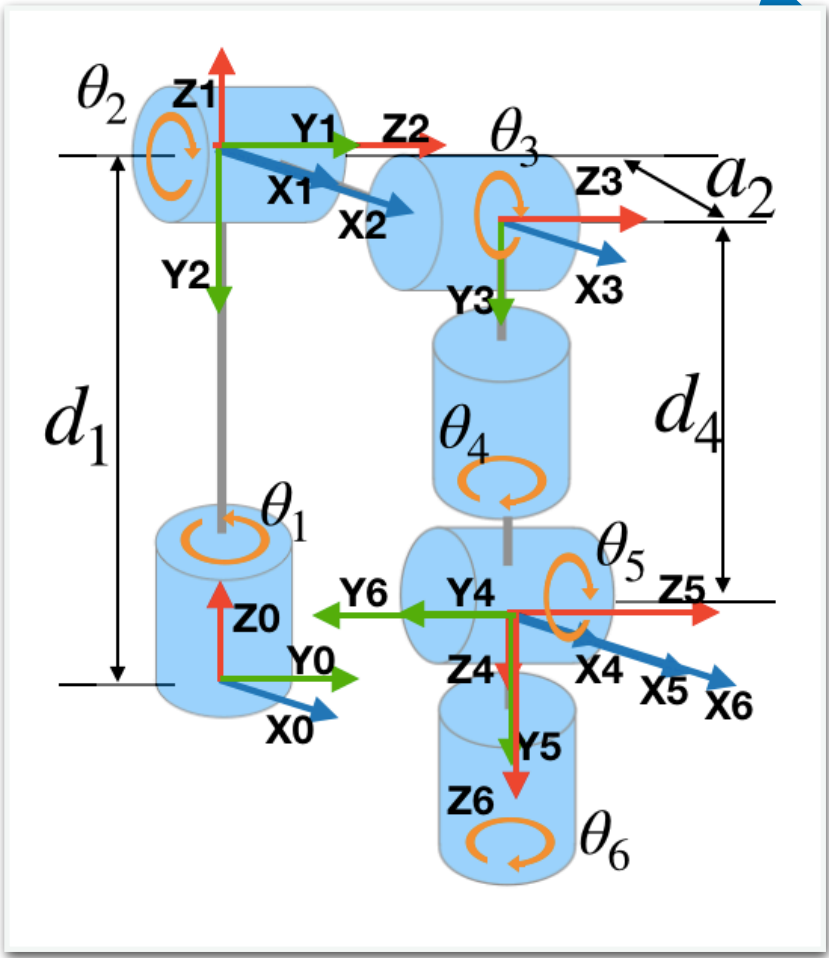
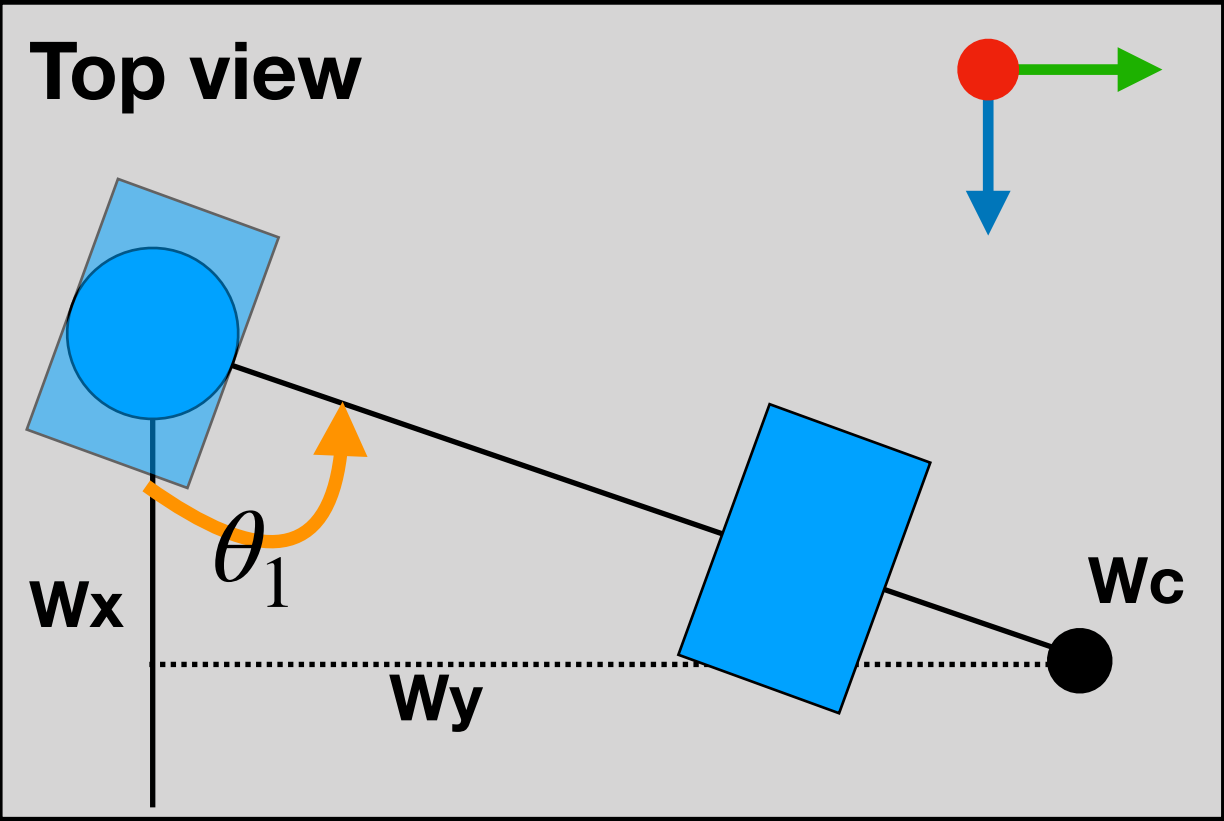


	α_{i-1}	a_{i-1}	d_i	θ_i
1	0	0	$d_1 = 373$	θ_1
2	-90	0	0	θ_2
3	0	$a_2 = 340$	0	θ_3
4	-90	0	$d_4 = 338$	θ_4
5	90	0	0	θ_5
6	-90	0	0	θ_6



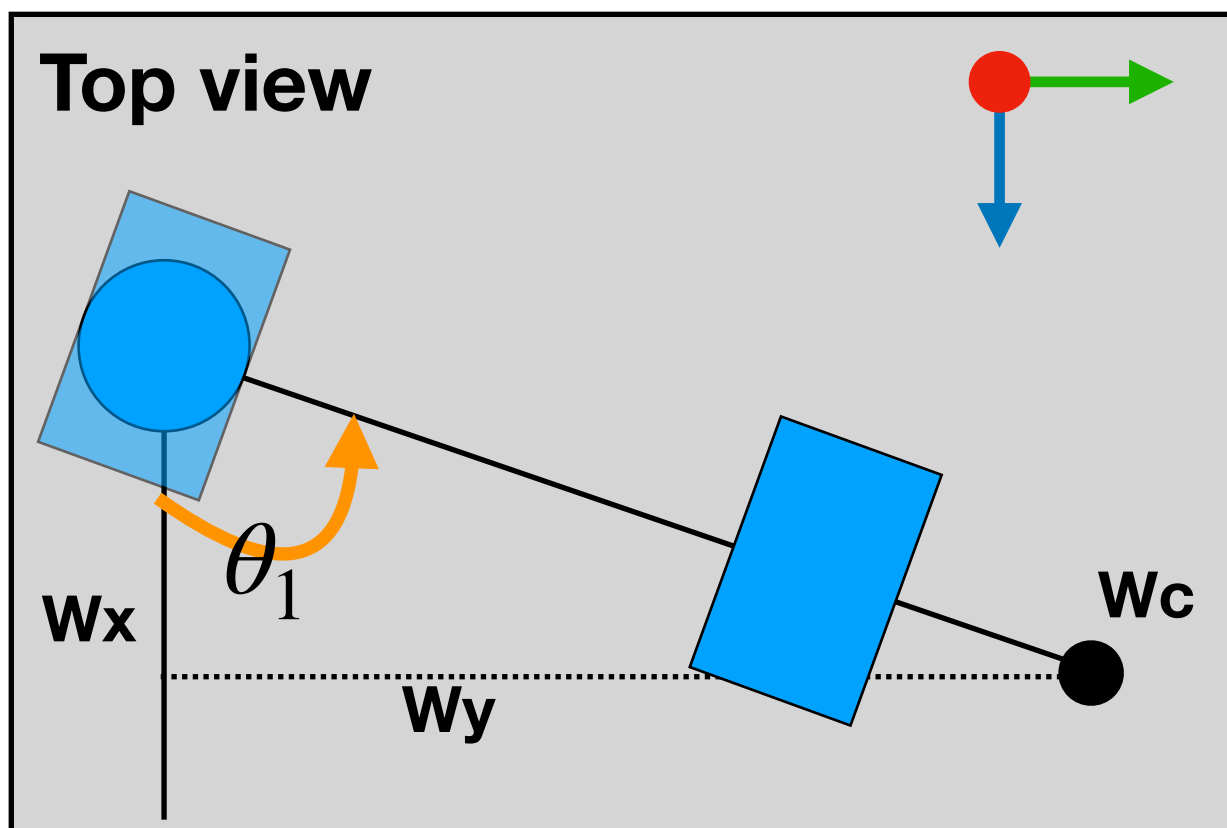


Position	X	Y	Z	ϕ_X	ϕ_Y	ϕ_Z
1	400	200	80			
2	400	400	80			
3	400	400	120			
4	400	200	120			
5	200	200	120			
6	200	400	120			
7	200	400	80			



	α_{i-1}	a_{i-1}	d_i	θ_i
1	0	0	$d_1 = 373$	θ_1
2	-90	0	0	θ_2
3	0	$a_2 = 340$	0	θ_3
4	-90	0	$d_4 = 338$	θ_4
5	90	0	0	θ_5
6	-90	0	0	θ_6

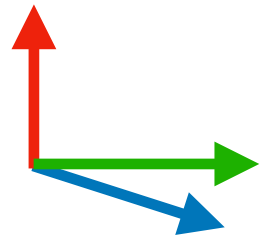
$$\theta_1 = \cos^{-1}\left(\frac{Wy}{Wx}\right)$$



$$\theta_1 = \cos^{-1}\left(\frac{W_y}{W_x}\right)$$

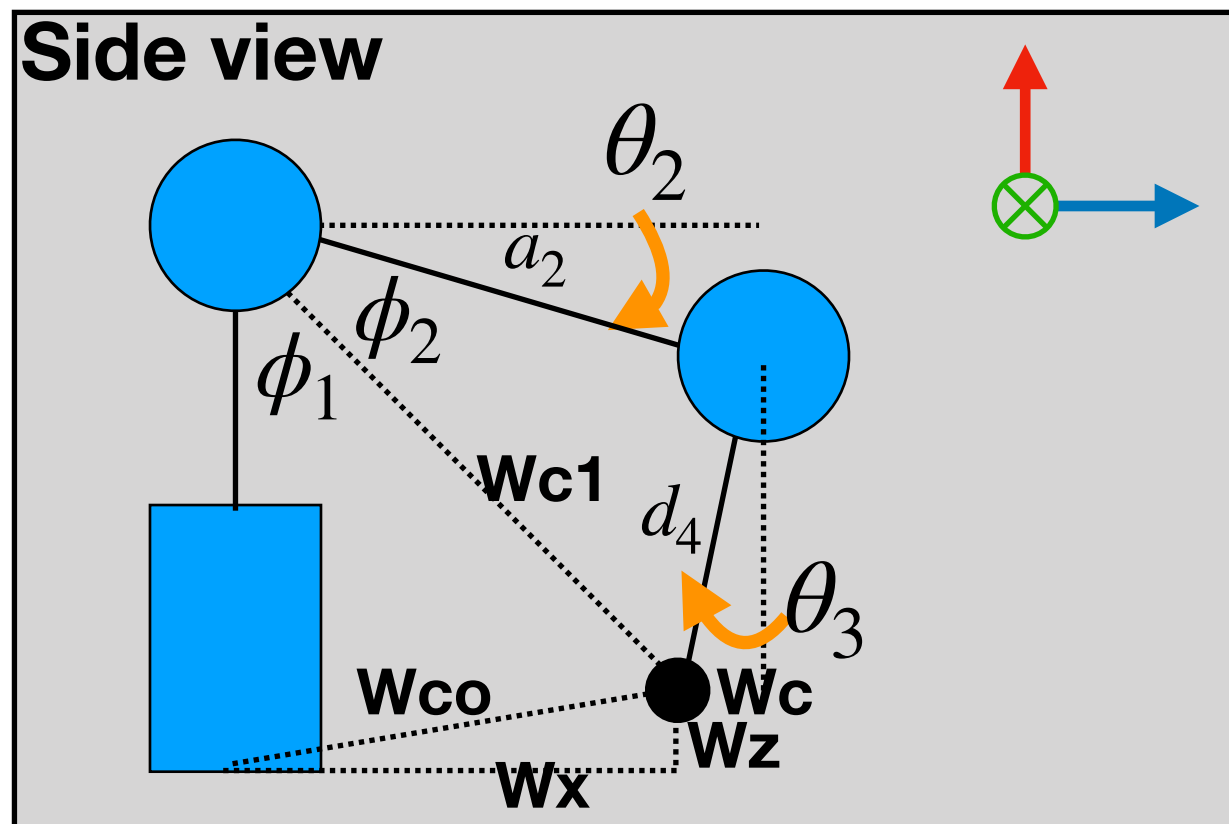
$$\theta_2 = \frac{2}{\pi} - (\phi_1 - \phi_2)$$

$$= \frac{2}{\pi} - \left[\cos^{-1}\left(\frac{Wco^2 - d_1^2 - Wc1^2}{2 \times d1 \times Wc1}\right) - \cos^{-1}\left(\frac{d_4'^2 - Wc1^2 - a_2'^2}{2 \times Wc1 \times a_2'}\right) \right]$$



$$\theta_2 = \frac{2}{\pi} - (\phi_1 - \phi_2)$$

$$= \frac{2}{\pi} - \left[\cos^{-1} \left(\frac{Wco^2 - d_1^2 - Wc1^2}{2 \times d1 \times Wc1} \right) - \cos^{-1} \left(\frac{d_4^2 - Wc1^2 - a_2^2}{2 \times Wc1 \times a_2} \right) \right]$$



製作模擬地圖



測試Gmapping



測試Navigation



測試Ar-tag

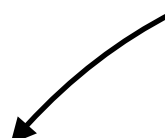


測試Audio
assistant



整合

廣場聚眾滋事



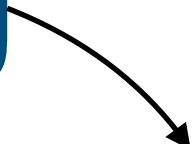
警察驅離



調離攤販



解決問題



關閉廣場



學習node/topic



學習launch file (xml)



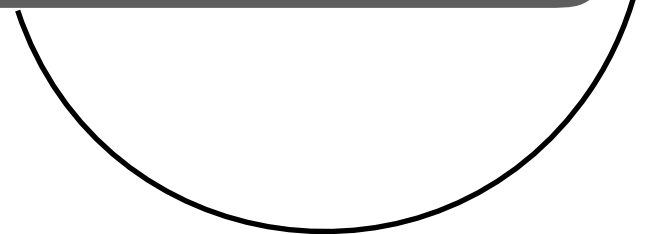
學習gazebo建模



學習car control



學習Ar-tag



學習gmapping



學習navigation



學習Alexa skill kit



整合