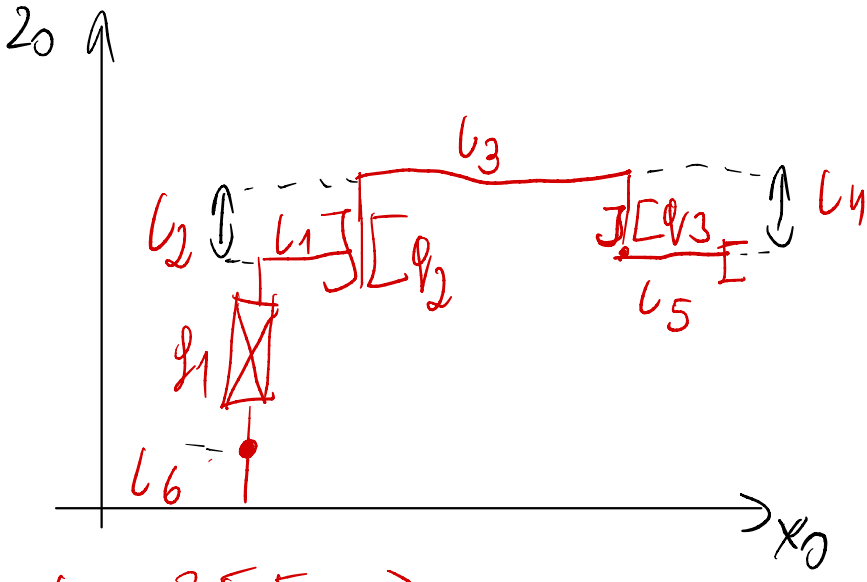


$l_1 = 35\ [mm]$

$l_2 = 12\ [mm]$

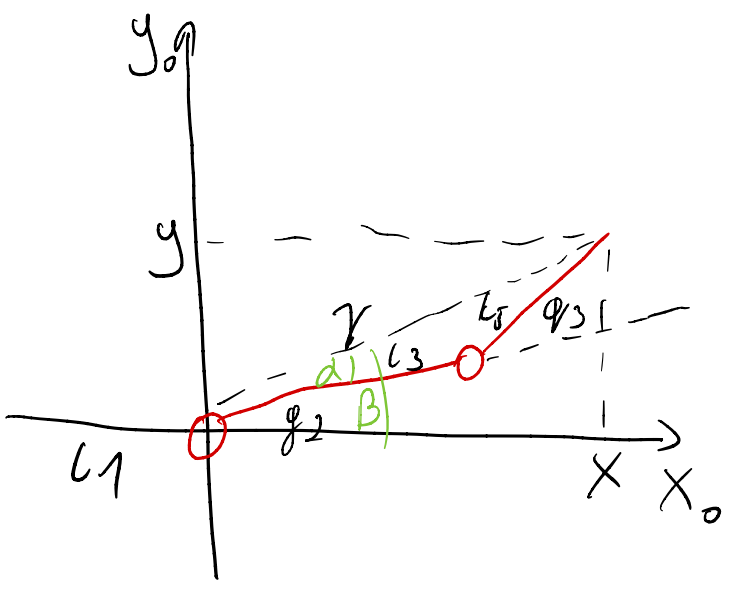
$l_3 = 150\ [mm]$

$l_4 = 25\ [mm]$

$l_5 = 15\ [mm]$

$l_6 = 176\ [mm]$

i	θ_i	d_i	a_i	α_i
1	0	$q_1 + l_6$	l_1	0
2	q_2	$l_2 - l_4$	l_3	0
3	q_3	0	l_5	0



$$r^2 = l_3^2 + l_5^2 - 2 l_3 l_5 \cos(\pi - q_3)$$

$$\cos q_3 = \frac{x^2 + y^2 - l_3^2 - l_5^2}{2 l_3 l_5} = r$$

$$\sin q_3 = \pm \sqrt{1 - r^2}$$

$$q_3 = \operatorname{arctg} \pm \frac{\sqrt{1 - r^2}}{r}$$

$$q_2 = \alpha - \beta$$

$$\alpha = arctg\left(\frac{y}{x}\right)$$

$$r = \frac{x^2 + y^2 - L_3^2 - L_5^2}{2L_3L_5}$$

$$\frac{L_5}{\sin\beta} = \frac{r}{\sin(\pi - q_3)}$$

$$\sin\beta = \frac{L_5 \sin q_3}{r}$$

$$\cos\beta = \pm\sqrt{\frac{r^2 - L_5^2 \sin^2 q_3}{r^2}}$$

$$\beta = arctg\left(\frac{L_5 \sin q_3}{L_3 + L_5 \cos q_3}\right)$$

$$q_1 = L_6 + 2$$

$$q_2 = arctg\left(\frac{y}{x}\right) - arctg\left(\frac{L_5 \sin q_3}{L_3 + L_5 \cos q_3}\right) + L_1$$

$$q_3 = arctg\left(\pm\frac{\sqrt{1 - r^2}}{r}\right) + L_1$$