



Position of end effector $P (P_x, P_y) = L_0 + L_1 + L_2$

$$P_x = L_1 \cos \theta_1 + L_2 \cos (\pi - (\theta_1 + \theta_2))$$

$$= L_1 \cos \theta_1 - L_2 \cos (\theta_1 + \theta_2)$$

$$P_y = L_0 + L_1 \sin \theta_1 - L_2 \sin (\pi - (\theta_1 + \theta_2))$$

$$= L_0 + L_1 \sin \theta_1 - L_2 \sin (\theta_1 + \theta_2)$$

$$L_0 = 12.5 \text{ cm}$$

$$L_1 = 30 \text{ cm}$$

$$L_2 = 20 \text{ cm}$$