



$d_1$  is the distance between  $(0,0,0)$  and  $(1,1,0)$

$$d_1 = \sqrt{x_1^2 + y_1^2}$$

$$a_0 = \cos^{-1} \left( \frac{x_1}{d_1} \right)$$

$d_2$  is the distance between  $(0,0,0)$  and  $(1,1,1)$

$$d_2 = \sqrt{x_1^2 + y_1^2 + z_1^2}$$

$$m = \frac{d_2}{2}$$

$$\theta_1 = \cos^{-1} \left( \frac{m}{l} \right)$$

$$\theta_2 = \cos^{-1} \left( \frac{d_1}{d_2} \right)$$

$$a_1 = \theta_1 + \theta_2$$

$$a_2 = \pi - 2 * \theta_1$$

$$a_0 = \cos^{-1} \left( \frac{x_1}{\sqrt{x_1^2 + y_1^2}} \right)$$

$$a_1 = \cos^{-1} \left( \frac{\sqrt{x_1^2 + y_1^2 + z_1^2}}{2 * l} \right) + \cos^{-1} \left( \frac{\sqrt{x_1^2 + y_1^2}}{\sqrt{x_1^2 + y_1^2 + z_1^2}} \right)$$

$$a_2 = \pi - 2 * \cos^{-1} \left( \frac{\sqrt{x_1^2 + y_1^2 + z_1^2}}{2 * l} \right)$$