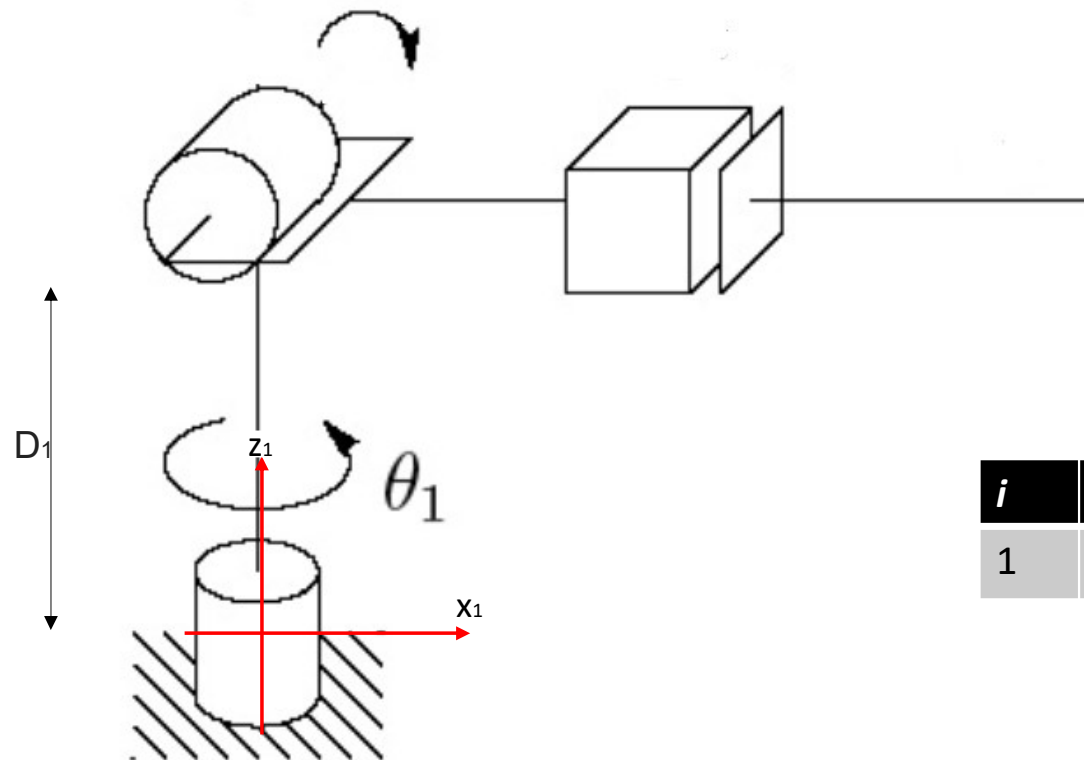
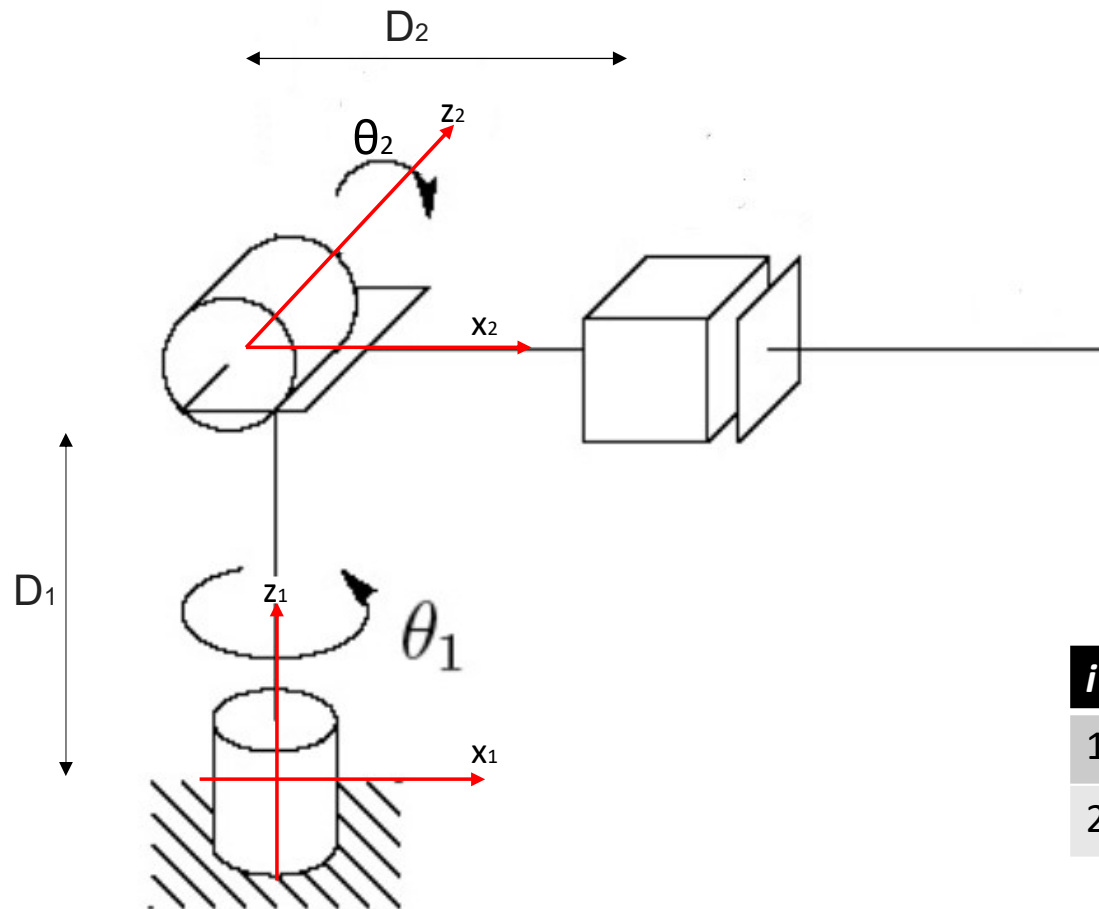


## Tabela Denavit-Hartenberg



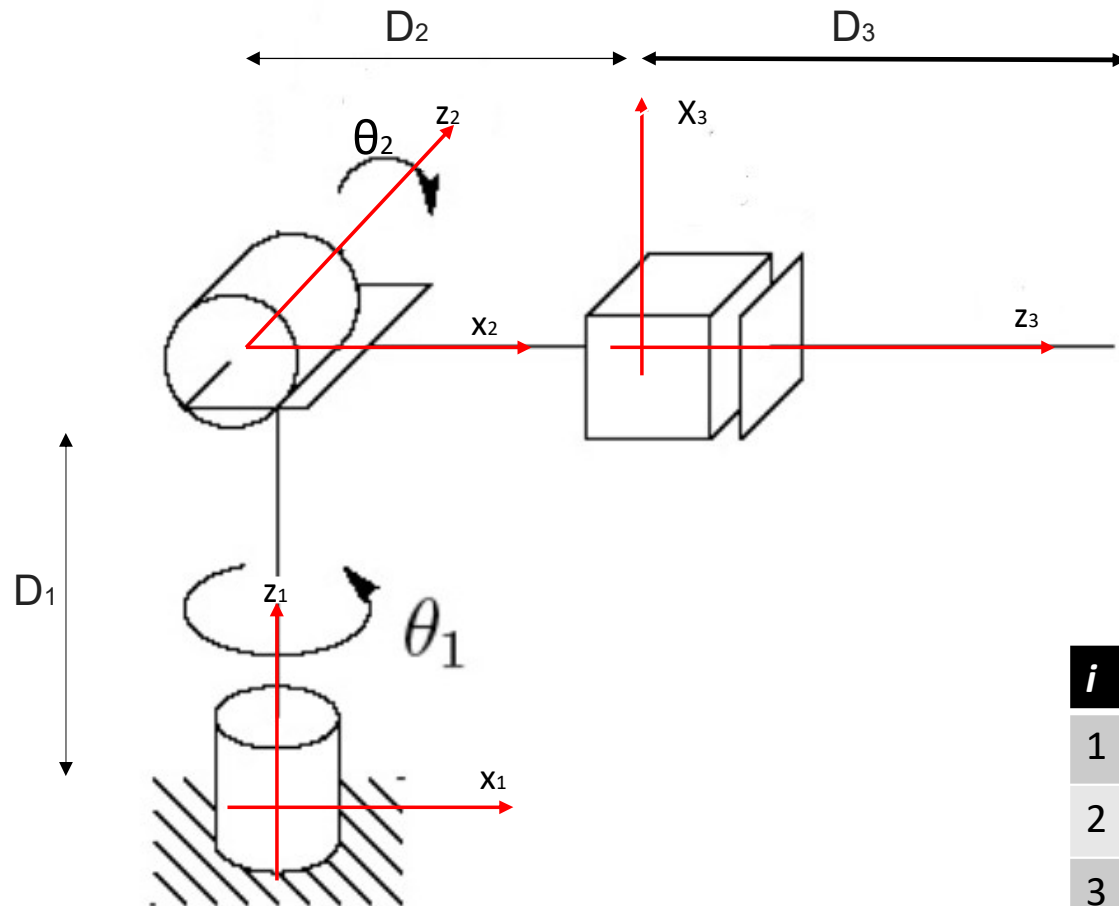
$i$	$\theta$	$d$	$a$	$\alpha$
1	$\theta_1^*$	$D_1$	0	$-90^\circ$

## Tabela Denavit-Hartenberg



$i$	$\theta$	$d$	$a$	$\alpha$
1	$\theta_1^*$	$D_1$	0	$-90^\circ$
2	$\theta_2^*$	0	$D_2$	$-90^\circ$

## Tabela Denavit-Hartenberg



$i$	$\theta$	$d$	$a$	$\alpha$
1	$\theta_1^*$	$D_1$	0	$-90^\circ$
2	$\theta_2^*$	0	$D_2$	$-90^\circ$
3	0	$D_3^*$	0	0

# Matriz Homogênea

$${}^1\mathbf{A}_0 = \text{Rot}(z, \theta_1) \text{Trans}(z, D_1) \text{Trans}(x, 0) \text{Rot}(x, -90^\circ)$$

$${}^1\mathbf{A}_0 = \begin{pmatrix} C\theta_1 & -S\theta_1 & 0 & 0 \\ S\theta_1 & C\theta_1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & D_1 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} =$$

$${}^1\mathbf{A}_0 = \begin{pmatrix} C\theta_1 & 0 & -S\theta_1 & 0 \\ S\theta_1 & 0 & C\theta_1 & 0 \\ 0 & 1 & 0 & D_1 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

# Matriz Homogênea

$${}^2\mathbf{A}_1 = \text{Rot}(z, \theta_2) \text{Trans}(z, 0) \text{Trans}(x, D_2) \text{Rot}(x, -90^\circ)$$

$${}^2\mathbf{A}_1 = \begin{pmatrix} C\theta_2 & -S\theta_2 & 0 & 0 \\ S\theta_2 & C\theta_2 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & D_2 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} =$$

$${}^2\mathbf{A}_1 = \begin{pmatrix} C\theta_2 & 0 & -S\theta_1 & D_2 C\theta_2 \\ S\theta_2 & 0 & C\theta_1 & D_2 S\theta_2 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

# Matriz Homogênea

$${}^3\mathbf{A}_2 = \text{Rot}(z,0)\text{Trans}(z, D_3)\text{Trans}(x, 0)\text{Rot}(x, 0)$$

$${}^3\mathbf{A}_2 = \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & D_3 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} =$$

$${}^3\mathbf{A}_2 = \begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & D_3 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$