

These are the DH matrices, representing the transitional and rotational property of each link and joint with respect to its antecedent, deduced by the graphical representation .

To obtain that the tool mentioned in the README.md file by Peter Corke

$$H_{0,1} = \begin{bmatrix} \cos(\theta_0) & 0 & -\sin(\theta_0) & 0 \\ \sin(\theta_0) & 0 & \cos(\theta_0) & 0 \\ 0 & -1 & 0 & 108 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$H_{1,2} = \begin{bmatrix} \cos(\theta_1) & 0 & \sin(\theta_1) & 145.5 \cos(\theta_1) \\ \sin(\theta_1) & 0 & -\cos(\theta_1) & 145.5 \sin(\theta_1) \\ 0 & 1 & 0 & 431.5 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$H_{2,3} = \begin{bmatrix} \cos(\theta_2) & 0 & -\sin(\theta_2) & 0 \\ \sin(\theta_2) & 0 & \cos(\theta_2) & 0 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$H_{3,4} = \begin{bmatrix} \cos(\theta_3) & 0 & -\sin(\theta_3) & 0 \\ \sin(\theta_3) & 0 & \cos(\theta_3) & 0 \\ 0 & -1 & 0 & 455 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$H_{4,5} = \begin{bmatrix} \cos(\theta_4) & 0 & \sin(\theta_4) & 0 \\ \sin(\theta_4) & 0 & -\cos(\theta_4) & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$$H_{5,6} = \begin{bmatrix} \cos(\theta_5) & -\sin(\theta_5) & 0 & 0 \\ \sin(\theta_5) & \cos(\theta_5) & 0 & 0 \\ 0 & 0 & 1153 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

with this matrices it is possible to get the position and orientation of each link with respect to its antecedent, in this way it is possible to get the position of the endeffector or of any other frame with respect to the base frame and to each other.

That's the DH table in which:

θ is the angle between x_i and x_{i+1} along the z_i axis

d is the angle between x_i and x_{i+1} along the z_i axis

a is the angle between z_i and z_{i+1} along the x_i axis

α is the angle between z_i and z_{i+1} along the x_i axis

	θ	d	a	α
0	θ_0	108	0	-90
1	θ_1	0	0	-90
2	θ_2	431.5	145.5	90
3	θ_3	0	0	-90
4	θ_4	455	0	-90
5	θ_5	0	0	90
6	θ_6	153	0	0

In the next page there is the graphical representation of links and joints

