DH Algorithm - Examples

Lecture 2. 7

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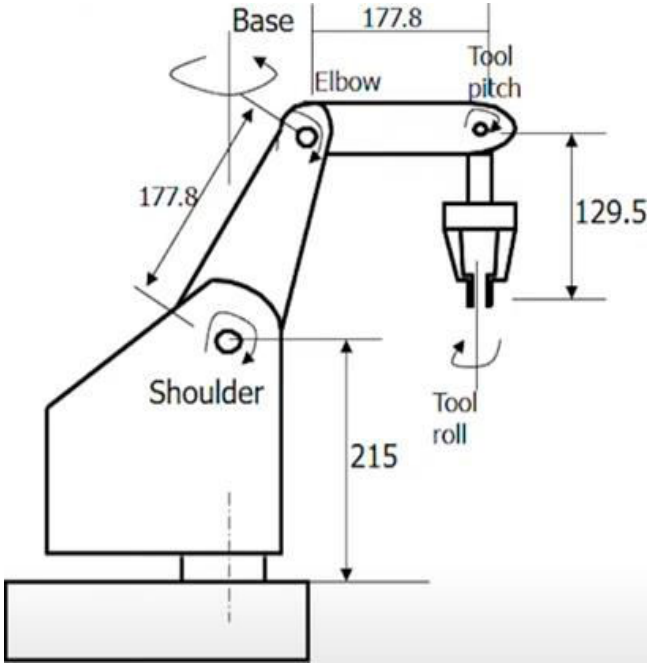
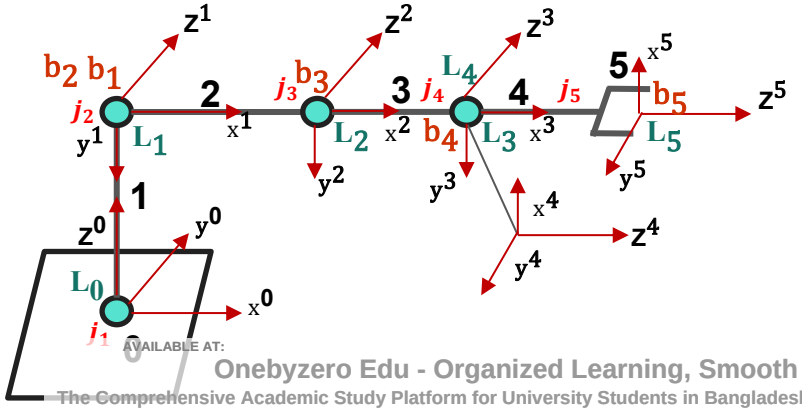
Example: Assign **coordinate frames** and determine **kinematic parameters** for a **5-axis articulated Robot**, Alpha II

- Number the links and joints
- Base coordinate frame L_0.
- For K=1, align Z axis, locate origin (**intersection of z^k and Z^{k-1}**) and assign X and Y.
- For K= K+1, K< n, repeat above step.
- Assign coordinate frame at tooltip (**normal vector– x, sliding vector- y, approach vector – z**).
- For k =1 to n, Locate b_k (**intersection of x^k and Z^{k-1}**).
- Get Link and Joint Parameters.





	Theta (θ)	a	d	Alpha (α)
1	Θ1	0	215	-90
2	Θ2	177.8	0	0
3	Θ3	177.8	0	0
4	Θ4	0	0	-90
5	Θ5	0	129.5	0

Here's some notes :

- dk= is the distance between L0 & L$k-1$ & bk measured $along\ \ zk, zk-1$
- ak = is the link length between bk to Lk $along\ Xk$
- αk = angle of rotation from z$k-1$ to zk measured with respect to Xk.(z0 − $z1$)