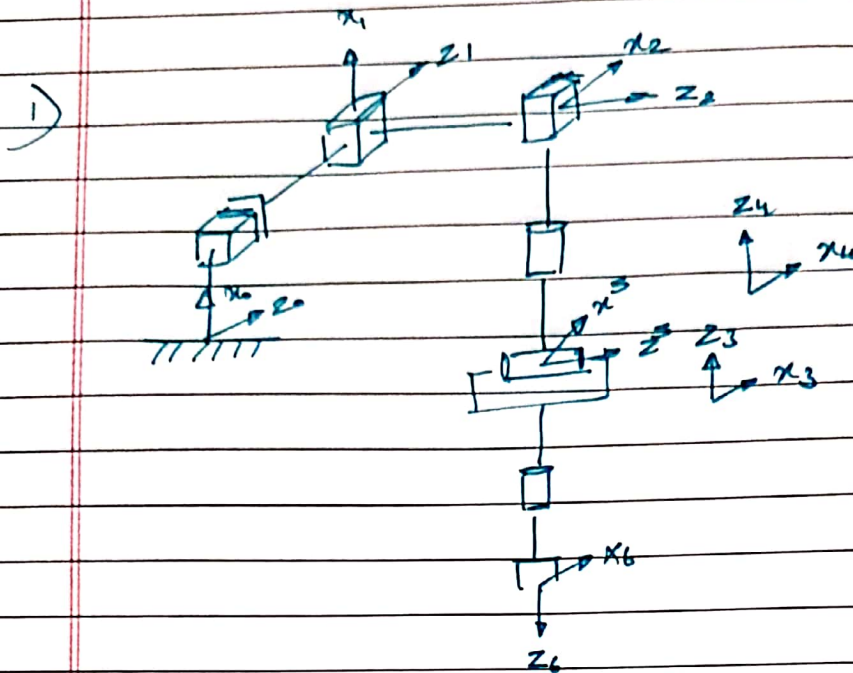


Assignment -1CHELLA THIYAGARAJAN
ME11BIT19DH parameters

i	d_{i-1}	a_{i-1}	d_i	θ_i
1	0	d_0	d_1	0
2	-90	0	d_2	-90
3	-90	0	$-d_3$	0
4	0	0	0	θ_4
5	90	0	0	θ_5
6	90	0	d_6	θ_6

$${}^i T = \begin{bmatrix} \cos \theta_i & -\sin \theta_i & 0 & a_{i-1} \\ \sin \theta_i \cos \theta_{i-1} & \cos \theta_i \cos \theta_{i-1} & -\sin \theta_{i-1} & -\sin \theta_{i-1} d_i \\ \sin \theta_i \sin \theta_{i-1} & \cos \theta_i \sin \theta_{i-1} & \cos \theta_{i-1} & \cos \theta_{i-1} d_i \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^0 T = \begin{bmatrix} 1 & 0 & 0 & d_0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & d_1 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^2 T = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & d_2 \\ 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^2_3T = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & -d_3 \\ 0 & -1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^3_4T = \begin{bmatrix} \cos\theta_4 & -\sin\theta_4 & 0 & 0 \\ \sin\theta_4 & \cos\theta_4 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^4_5T = \begin{bmatrix} \cos\theta_5 & -\sin\theta_5 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ \sin\theta_5 & \cos\theta_5 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^5_6T = \begin{bmatrix} \cos\theta_6 & -\sin\theta_6 & 0 & 0 \\ 0 & 0 & -1 & -d_6 \\ \sin\theta_6 & \cos\theta_6 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

$${}^0_6T = {}^0_1T {}^1_2T {}^2_3T {}^3_4T {}^4_5T {}^5_6T$$

$${}^0_6T = \begin{bmatrix} C_6 S_5 & -S_5 S_6 & -C_5 & d_0 - d_3 - d_6 C_5 \\ C_4 S_6 & C_4 C_6 & -S_4 S_5 & d_2 - d_6 S_4 S_5 \\ -C_5 S_4 C_6 & + C_5 S_4 S_6 & & \\ S_4 S_6 + C_4 & C_6 S_4 - C_4 C_6 C_5 & C_4 S_5 & d_1 + d_6 C_4 C_5 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$