MCE4101
Robotic Engineering

Chapter 8.5
Inverse Kinematics (with wrist orientation) using MATLAB

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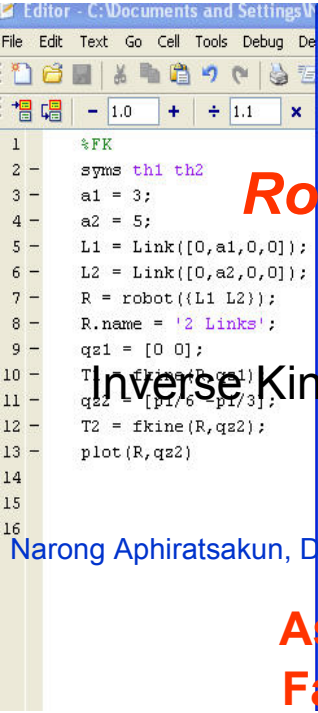
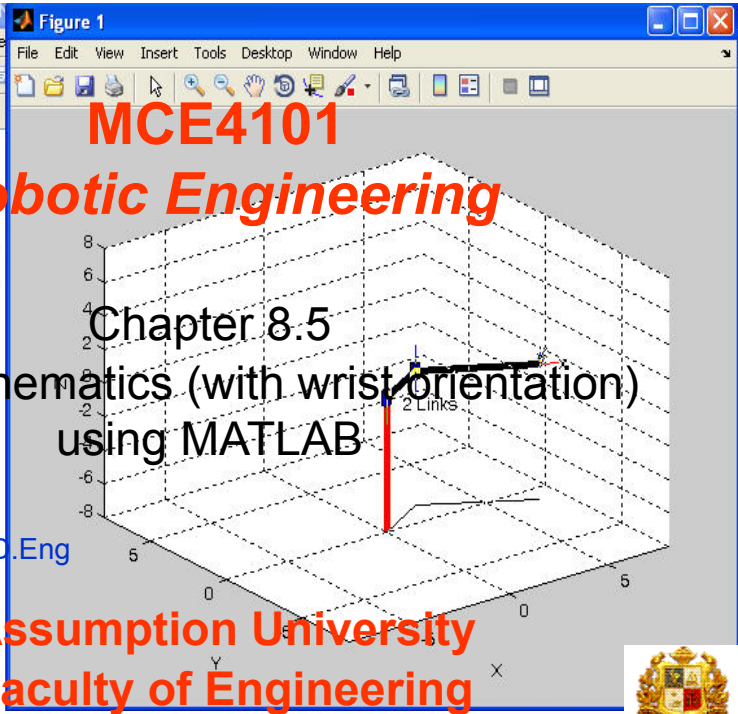
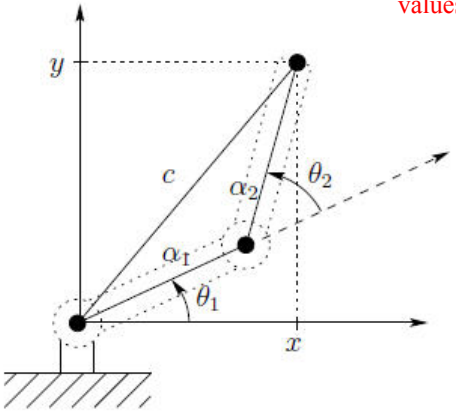




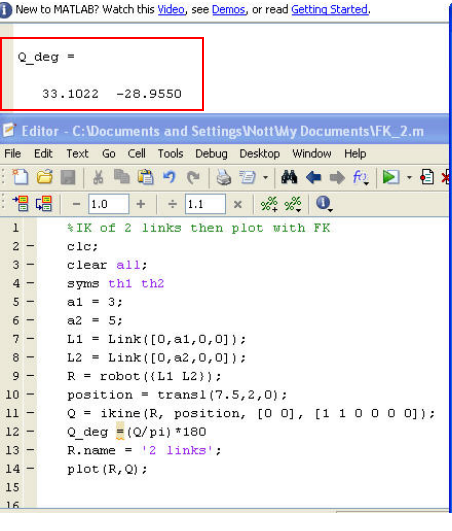
IK : 2 Links using MATLAB

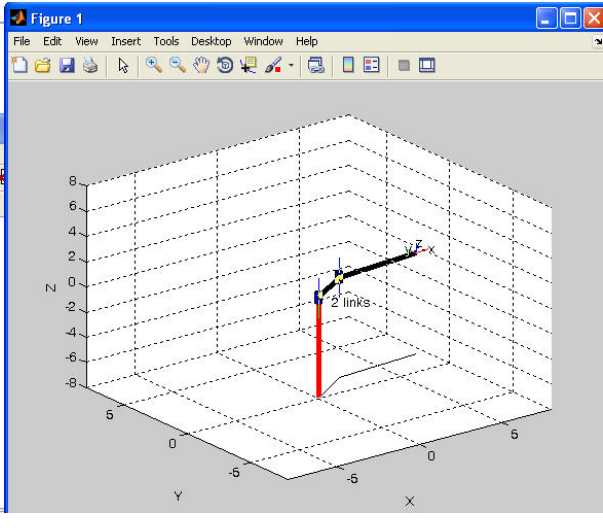


Ex: Let α1 = 3 and α2 = 5, obtain the possible values of θ 1 and θ 2 for point(7.5,2).

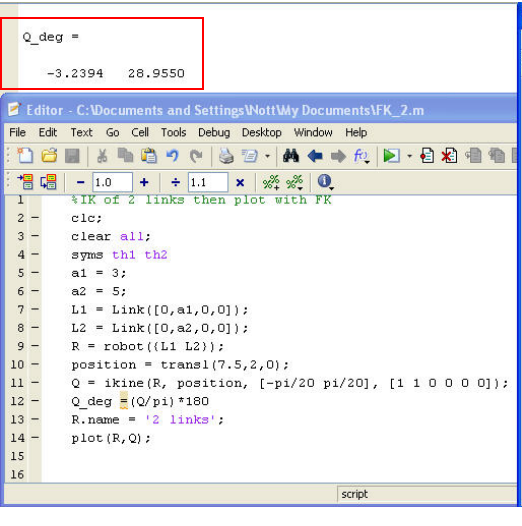
Link	a_i	α_i	d_i	θ_i
1	a_1	0	0	θ_1^*
2	a_2	0	0	θ_2^*

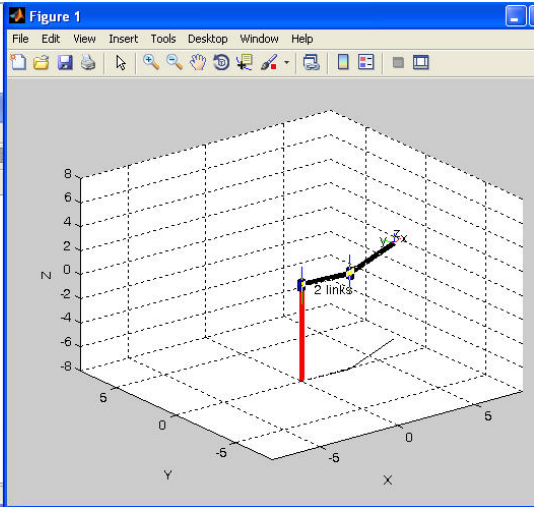
IK : 2 Links using MATLAB



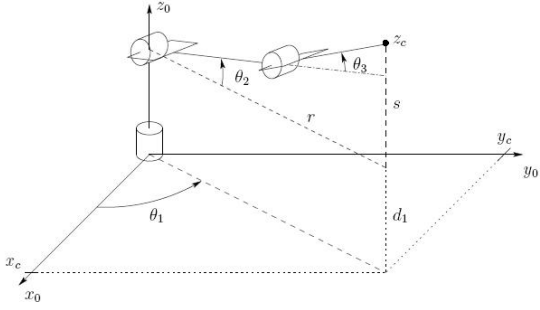


IK : 2 Links using MATLAB





IK : RRR using MATLAB



RRR

Link	a_i	α_i	d_i	θ_i
1	0	90	d_1	$\theta_1^\star$
2	a_2	0	0	$\theta_2^\star$
3	a_3	0	0	$\theta_3^\star$

RRR with no offset configuration.

Let α2 = 3 and α3 = 5 d1 = 2, obtain the possible values of θ 1, θ 2 and θ 3 for point (7.75,1.95, 1.5).

IK : RRR using MATLAB